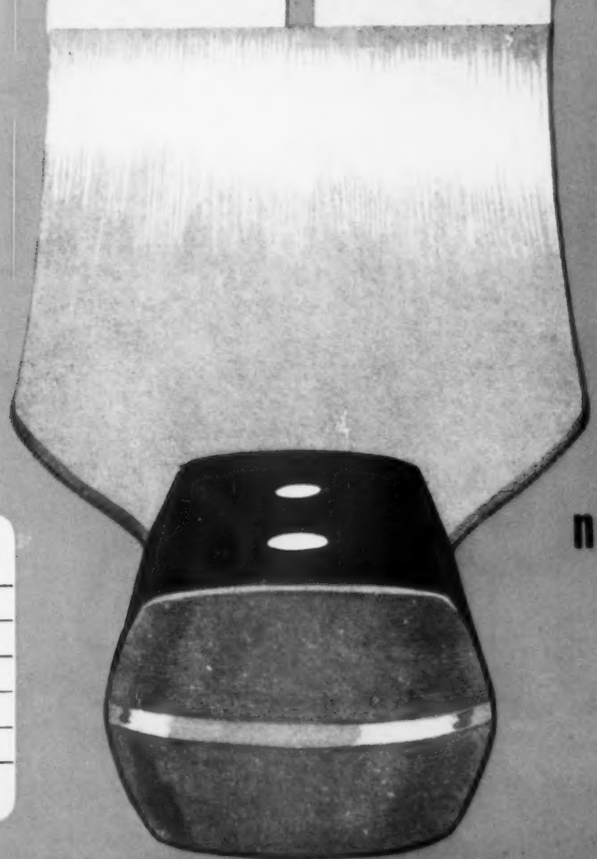
PRINTING EQUIPMENT *Engineer*

An Industry-wide Technical Publication



november 1952

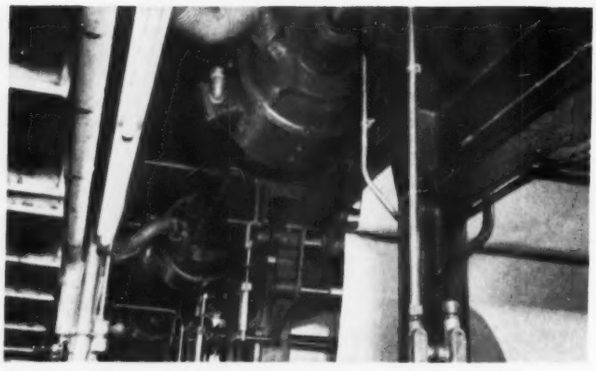
PLEASE ROUTE THIS COPY TO

Manager	Pressroom Foreman
Production Mgr.	Bindery Foreman
Plant Supt.	Mailing Foreman
Platemaking Foreman	Maintenance Supt.
Composing Foreman	Purchasing Agt.

For filing, please return to

FEWER WEB BREAKS result through smooth acceleration and braking afforded by G-E Electronic Drive at Bergen.

Bergen Evening Record cuts costs



POWER COSTS REDUCED through inherent high efficiency of G-E electronic drive over the entire operating range; also, high power factor substantially lowers kva demand charges.

LESS DOWNTIME occurs because G-E drive eliminates threading motors, drive gears, clutches, mechanical brakes; simplified control has long-life tubes, contains no contactors.

G-E electronic drive reduces power costs, downtime and maintenance

Mr. C. T. Shoemaker, Mechanical Superintendent of the *Bergen Evening Record*, Hackensack, N. J., says, "Our G-E Electronic Press Drive is the most satisfactory and reliable drive I have seen. We get a smooth jog for plating-up and a fast smooth acceleration from threading to full speed that really reduces web breaks. Our pressmen like it, and the simplified control panels have eliminated many of our maintenance problems."

Power costs are reduced, too. Because of the inherent high efficiency of the drive over the entire operating range, and high power factor which reduces kva demand charges, the Evening Record realizes substantial long range savings even while operating their new Scott "Extra high-speed" 8-unit, 2-folder press at 50,000-pph.

For more detailed information on how an electronic press drive can help lower your operating costs, contact your G-E printing industry specialist at the nearest G-E Apparatus Sales Office. He can apply to your specific problem experience gained through close cooperation with other newspapers and your press manufacturer. Meanwhile, write for bulletin GEA-5523. General Electric Co., Schenectady, N. Y. 653-24

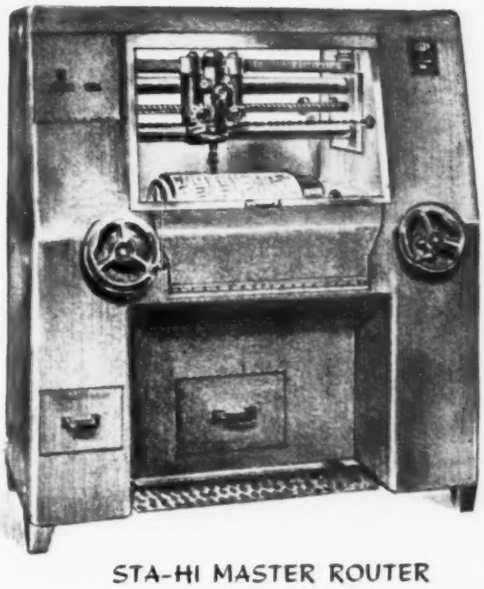
Engineered Electrical Systems for Newspaper Plants

GENERAL ELECTRIC

The Sta-Hi Master Router

is Everybody's Favorite

Everybody's Publishing Company in Buffalo, New York, known as "The Complete Publication Plant", does a whale of a lot of curved plate routing for their large and varied volume of fine color printing.



STA-HI MASTER ROUTER

Typical of comment from owners of the Sta-Hi Master Router everywhere is the following, from F. B. Rogger, Everybody's general manager:

"Concerning our Sta-Hi Master Router which we have in daily operation...We find it the best router we have in our shop for precision work...

"Excellent to operate from the standpoint of the operators...It is noiseless, safe...as well as the fastest.

"The men prefer it over our other routers, without question."

That's why we say "Ask the Man Who Runs One" before you make your decision to buy any curved plate router!

We will be glad to send detailed information at your request.

STA-HI®

STA-HI CORPORATION 235 West Washington Boulevard, Box 152, Whittier, California

THE CUTLER-HAMMEC

unit type newspaper press drives–
SIMPLE, FLEXIBLE, DEPENDABLE

In the Cutler-Hammer Control System for unit drives, each press unit with its own motor has its own motor control. It is a simple matter to cut press units in and out. Troubles such as changing load adjusting resistor switches, equalizing load among motors, circulating currents and excessive current peaks are at an end.

Each unit of Cutler-Hammer Motor Control is built up of simple, familiar, rugged industrial type control components. The kind any electrical man understands and can service. All control equipment can be installed in a separate room. Installation is simple and economical.

The Cutler-Hammer System utilizes simple, sturdy wound rotor a.c. unit motors. . . the dependable type with ample overload capacity for operating press at full speed in event of a motor failure. Also ample capacity for driving additional color decks. These motors are easily installed, aligned and serviced.

A gearhead motor performs inching and threading. Unit driving motors therefore are not energized during these operati

A Cutler-Hammer cam d accelerating device with 82 sp points accelerates motors press units automatically smoothly to any operating sp

Dynamic braking elimin the usual motor with buil brakes. These are some of features that recommend Cutler-Hammer Unit Type C trol System to any executive lo ing for maximum production minimum cost and troub CUTLER-HAMMER, Inc., 1 St. Paul Ave., Milwaukee 1,

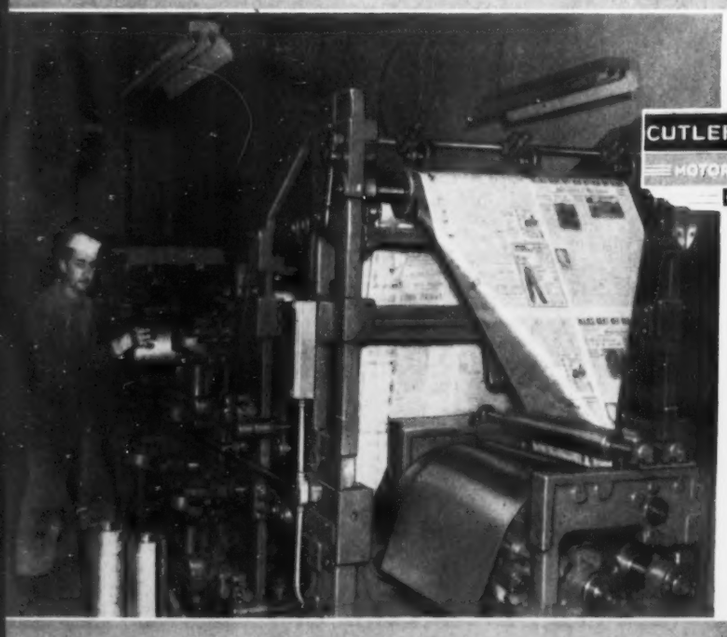
Cutler-Hammer Cylinder Brakes

Stop presses safely in approximately 3 seconds, completely relieving gearing of excessive forces and harmful shocks. Each brake individually adjustable yet automatically coordinated with other brakes.

CUTLER-HAMMER
MOTOR CONTROL
C-H

Cutler-Hammer Newspaper Conveyors

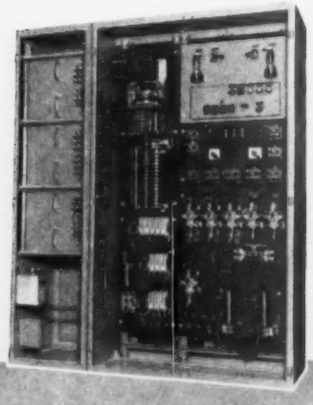
Used in practically every conveyor-equipped plant in North America. Standard Duty handles pages at any speed up to 60,000 I.P.H. Duty handles up to 96 pages at any to 60,000 I.P.H.



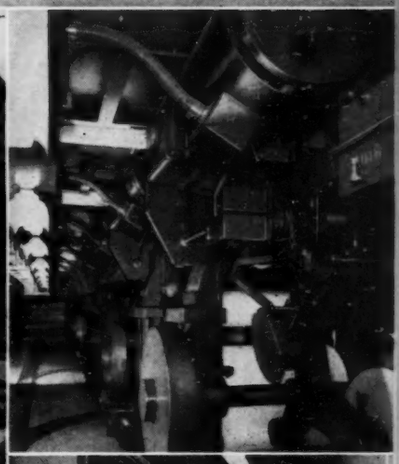
Cutler-Hammer Electronic Control for single motor drive on Goss Dek-A-Tube press in plant of

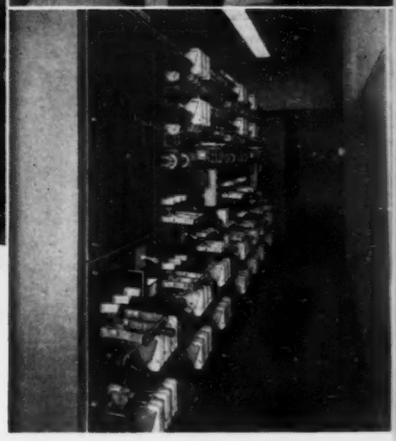
MADISONVILLE, KY., MESSENGER

"The whole setup is running smoothly, and we are looking forward to many years of satisfactory operation," says Edgar Arnold Jr., Assistant Editor.



CONTROL SYSTEM for



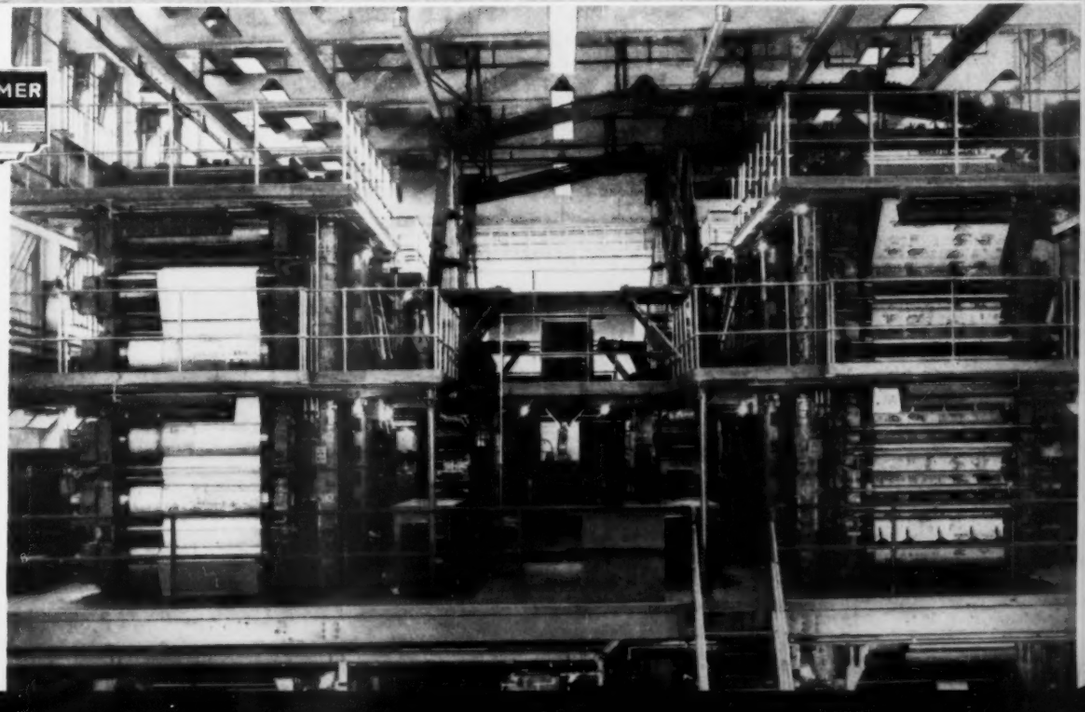


Cutler-Hammer Control System for Unit Drives

WILKES-BARRE, PA., RECORD, TIMES-LEADER, NEWS

This eight-unit two folder Hoe color convertible newspaper press at left, is equipped with unit drive and Cutler-Hammer unit type control. Above, the C-H Control installed in separate room, and a close-up of a drive unit.

CUTLER-HAMMER
MOTOR CONTROL
C-H



Cutler-Hammer Control for
2 Motor Drives on

MULTI-MILLION RUN HEARST
4-color Weeklies

"Running very satisfactorily" are these two 24-cylinder color presses equipped with Cutler-Hammer Controlled Drives in the Color Plant of the American Weekly at San Francisco. In addition there are four 24-cylinder presses identical with the above, in the American Weekly plant in Chicago. Approximately 10 Million copies of the American Weekly and 8 ½ Million copies of the Comic Puck Weekly are printed each week.

There's No Longer a Reason for Anyone Not Having a Motor-Driven Arc Camera Lamp

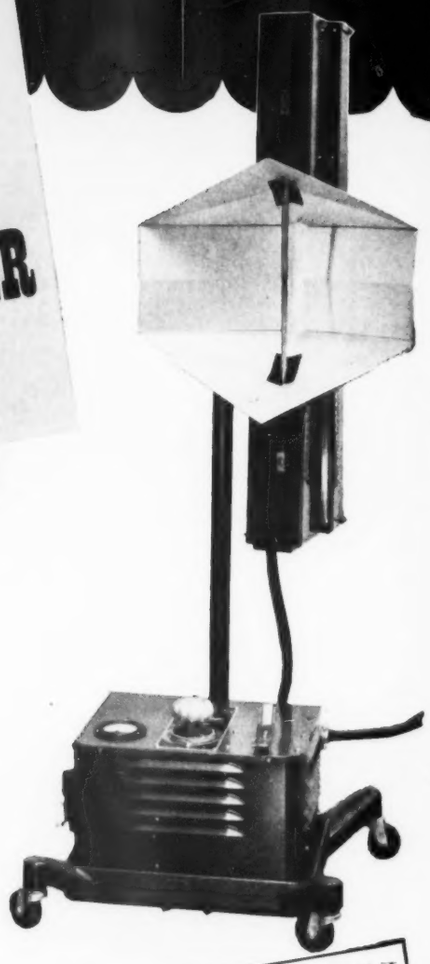
The Sensational New

Strong

GRAFARC CHALLENGER

Fully Automatic High Intensity

CAMERA ARC LAMP



is within the reach of even the smallest shop, is economical to buy and economical to use.

It provides uniform illumination on work of any size, with extreme steadiness of light volume. Constant color temperature is assured. The Challenger furthermore eliminates the illumination variable in accurate control of densities.

Light in weight, it is readily mounted on the lamp support arms of any camera. Adapters are available to fit all makes. The Challenger can also be used as a printing lamp.

There are Strong Grafarc lamps designed for all photo-mechanical reproduction processes— printing lamps, camera lamps, photo-composing lamps and overhead printing lamps.

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30/ City Park Avenue

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AN INDUSTRY-WIDE TECHNICAL PUBLICATION

Published especially for management, production and mechanical executives responsible for printing production and the specification of equipment and supplies used in the commercial, magazine, private plant and daily newspaper fields.

Volume 83 **Number 2**

PRINTING EQUIPMENT Engineer, Published monthly at 1276 West Third St., Cleveland 13, Ohio. Copyright 1952 by Willsea Publishing Co.

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Subscription price per year, $3.50 in advance in U.S.A. Single copy current issues, 35c; feature issue $1 per copy; December Equipment and Supplies Catalog Issue $2 per copy in United States, $2.50 outside of United States. (U. S. currency). Subscriptions in foreign countries $4.50 (U. S. currency) in advance. Canadian printing plant mechanical and production executives receiving Printing Equipment Engineer under CCA regulations will be charged $1 postage per year in advance to cover additional postage to Canada.

Member Circulation CCA Controlled Audit

Acceptance under section 34.64 P. L. and R., authorized.

Printed in U. S. A.

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gather, stitch *and* trim

in one continuous operation

- THE McCAIN SIGNATURE FEEDERS
- THE CHRISTENSEN GANG STITCHER
- THE McCAIN THREE KNIFE TRIMMER

an automatic combination for saddle stitching

Break the bottleneck in the production of saddle stitched booklets and magazines! Here are three outstanding machines that form an integral unit which feeds signatures, saddle stitches and trims, all in one fast, continuous, automatic operation.

The McCain Feeders ***automatically*** open and place successive signatures one on top of the other on the moving saddle of the Christensen Stitcher. The McCain Trimmer ***automatically*** receives the stitched booklets from the Stitcher, accurately trims them on three sides and delivers finished booklets. There is no costly handling, no waiting time between stitching and trimming.

Both the Feeders and the Trimmer can be attached to Christensen Stitchers already in operation in the field.

Send for the Illustrated Folder and complete information on these machines.

"PRODUCTION IS UP"

says Glenn Parker
Production Manager
Kalmbach Publishing Co.
Milwaukee

"When our bindery load began to increase due to additional publications and longer runs, we found it necessary to increase our bindery capacity. Since you equipped our Christensen gang stitcher with McCain Signature Feeders and Trimmer, our production is up, and this automatic operation has eliminated our bindery bottleneck.

"To coordinate our binding and mailing we find it advantageous to run at 6500 and our production averages 6000 to 6200 stitched and trimmed magazines per hour. The trimming accuracy is unexcelled and we save a great deal of floor space by not having to handle skids of untrimmed books.

"Our experience has proved this to be a very profitable investment for us."

DEXTER FOLDER COMPANY

330 West 42nd Street, New York 36, New York

THE WINNING PASS

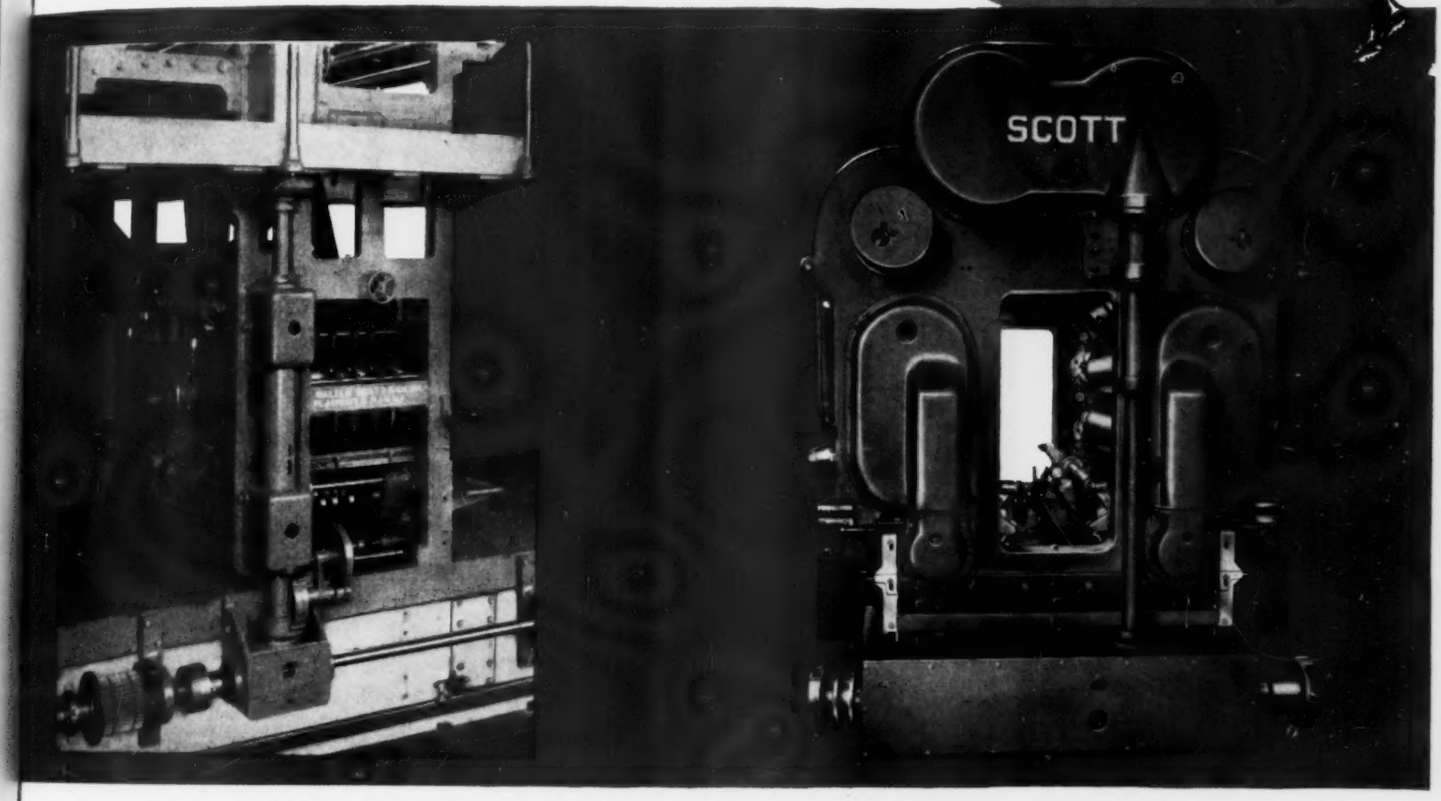
Even a highly skilled forward passer cannot be effective without a teammate possessing outstanding ability as a receiver.

That's why SCOTT builds an "Extra High-Speed" Folder to match the unexcelled speed of the SCOTT "Extra High-Speed" Press.

The SCOTT Folder is built to handle the thousand-a-minute output of the SCOTT Press, be it a four-page tabloid or a 96-page newspaper.

What is more, the SCOTT Folder compensates for the bulk of "thick" sections by allowing for graduated page trim, producing newspapers with neat, matching edges.

SCOTT Folders provide, not only dependable, consistent operation at high speed, but a touch of the bookbinder's art, for good measure.



Speed, safety and flexibility characterize this SCOTT "Extra High-Speed" Folder, with the exclusive 3 to 2 ratio and patented expansion bands. Four-page tabloid to a 96-page newspaper, plus ready change-over for collect run; all are within its range, with speed to match the SCOTT Press.

The SCOTT "Extra High-Speed" Press Unit is considerate of floor space, yet has man-size room for access from gear—or *drive-side*. Symmetry of design gives rotating parts a dynamic balance that makes for *speed* and minimizes *wear*.

BUY WITH CONFIDENCE - BUY SCOTT

SCOTT

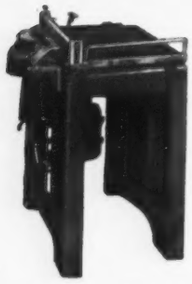
S-52-3

WALTER SCOTT & CO., INC. PLAINFIELD, NEW JERSEY

FOR COMPOSING ROOM $AVING$

LOOK into the advantages of
MORRISON *Saw Trimmer and Allied Machines*

MORRISON PLATE BEVELER



Puts a perfect, burr-free shoulder or bevel on all plates. Cutters work from edge of plate, not the top. You get a smooth die-straight cut every time.

MORRISON MODEL 3-A SAW TRIMMER

Today's more versatile saw. Clamps the work **behind gauge** for improved visibility, easier handling, and greater accuracy. A must for economy-minded composing rooms.

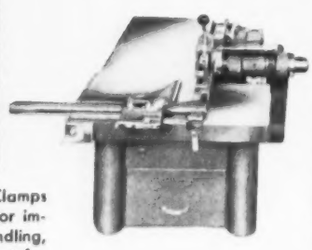
MORRISON MODEL 45 SAW TRIMMER

with PISTOL GRIP Saw Blade Adjustment

Here's the Saw Trimmer for medium-sized plants—or for supplementary equipment in larger plants. Has most of the famous 3-A features—plus the Pistol-Grip swift adjustment for elevating saw blade to trimming and plate cutting positions. Has popular Behind the Gauge Workholder. Available with Extension Gauge, miter and Lineup Gauge, Universal Saw Blades, Saw Grinding Attachment and many other Morrison "exclusives." Table size, 18" x 27".

MORRISON SLUG STRIPPER

"Proves itself to the men, within 24 hours." Makes it easy to strip the face of any slug or type character to the exact thickness needed for base heights.



MORRISON MODEL "45" SPECIAL SAW TRIMMER

A low-cost saw trimmer that embodies most of the features of the higher priced Model "45" and Model 3-A. "Behind the gauge" work clamp is standard, conventional "ahead of the gauge" clamp is optional equipment. Also available in a cabinet model.

MORRISON ROUTER AND TYPE HIGH PLANER

Saves time in making corrections and changes, saves make ready time by having all cuts precision height. Has exclusive Morrison micrometer height gauge. Allows routing to center of a 34" cut.

Other Morrison Equipment includes: Strip material cabinets, waste receptacles, Universal saw blades, router bits, and jig saw blades

Symbol of Operating Economy

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THE *Morrison* COMPANY

PRECISION MACHINES FOR THE GRAPHIC ARTS INDUSTRY

125 W. Melvina Street, Milwaukee 12, Wisconsin

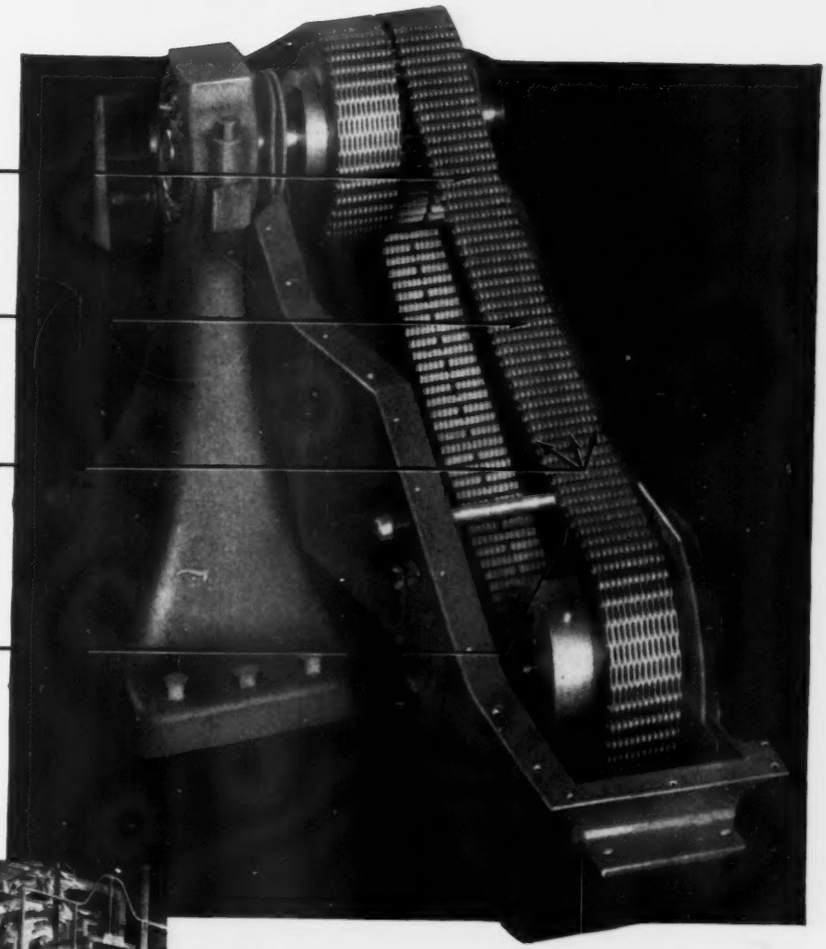
Choose the proved way
to transmit high hp at high speeds

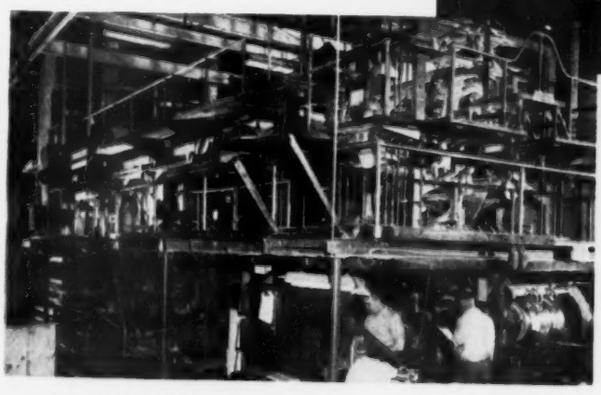
Silverstreak Silent Chain does the job with a single strand—eliminating the dangers that come with one or more belts in a group carrying more than their share of the load.

Husky Silverstreak metal link construction combines the ability to carry heavy overloads with the resilience that really absorbs shock.

"Pull" is distributed equally across Silverstreak Silent Chain. No possibility of uneven running—slapping.

Silverstreak Silent Chain doesn't rely on tension to get pulling power—chain meshes with teeth—gives POSITIVE drive—no chance for slip.





Four 125 hp Silverstreak Silent Chain Drives power this press on which 46% of all "Readers Digest" copies are printed. Chain speeds of 4600 fpm are maintained 24 hours a day, six days a week.

LINK-BELT

SILVERSTREAK SILENT CHAIN DRIVES

LINK-BELT Silverstreak Silent Chain Drives are slip-proof . . . slap-proof . . . shock-proof

For the finest in modern power transmission, use Silverstreak Silent Chain the next time you have a demanding drive problem. These long-life drives—more than 98% efficient—have met every test for rugged service. There are many applications where Silverstreak Silent Chain has been in continuous operation for 15 years and more . . . without replacement . . . with only routine attention. Call the Link-Belt power-transmission engineer in the office near you for any information you require.

LINK-BELT COMPANY: Plants: Chicago, Indianapolis, Philadelphia, Atlanta, Houston, Minneapolis, San Francisco, Los Angeles, Seattle, Toronto, Springs (South Africa), Sydney (Australia). Sales Offices, Factory Branch Stores and Distributors in Principal Cities. 12,083

None of this... with GOSS COLORTROL

NO KNEELING

Colortrol panels are *waist high*—located on one side of the unit instead of the four corners.

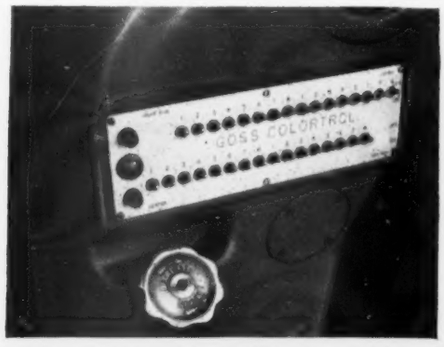
NO CLIMBING

Shoulder high panel brings ink control of upper color cylinders to press room floor.

NO "DELAYED ACTION"

Colortrol permits *simultaneous* increase or decrease of ink flow to any number of columns.

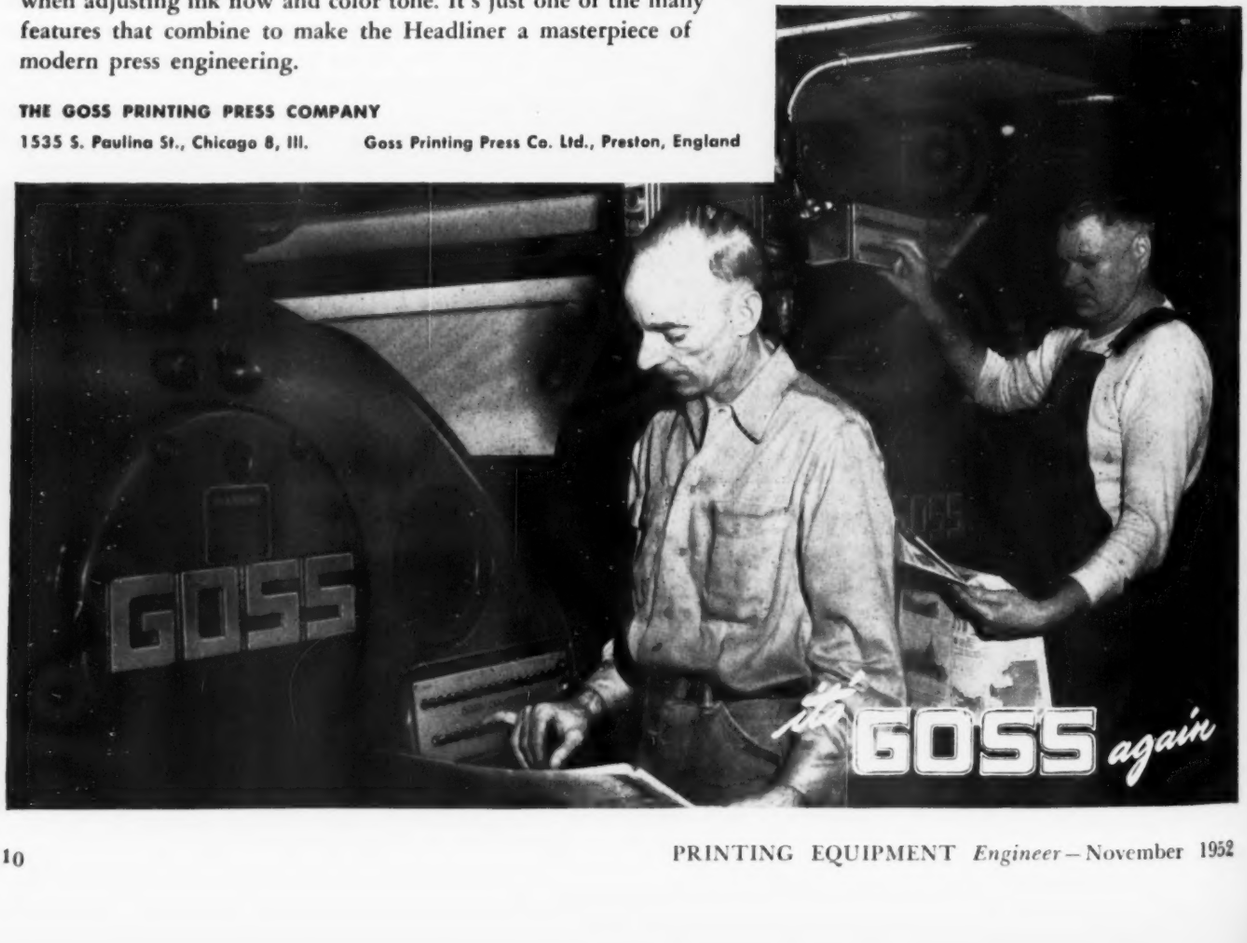
Another Point in Favor of the GOSS Headliner PRESS



Colortrol — an exclusive Goss feature, standard on Headliner presses — provides positive finger-tip adjustment of all ink feed controls . . . quickly, easily, safely. It permits page cut-off and presetting of ink feed . . . eliminates kneeling, climbing or fumbling when adjusting ink flow and color tone. It's just one of the many features that combine to make the Headliner a masterpiece of modern press engineering.

THE GOSS PRINTING PRESS COMPANY

1535 S. Paulina St., Chicago 8, Ill. Goss Printing Press Co. Ltd., Preston, England



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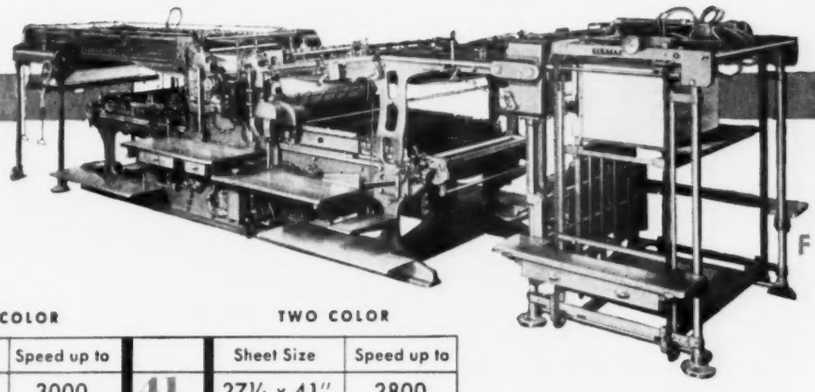
It is today—it has been for more than 60 years.

All over the world, wherever fine printing is done, Miehle Single Color and Two Color Flatbeds continue to set the standard of performance.

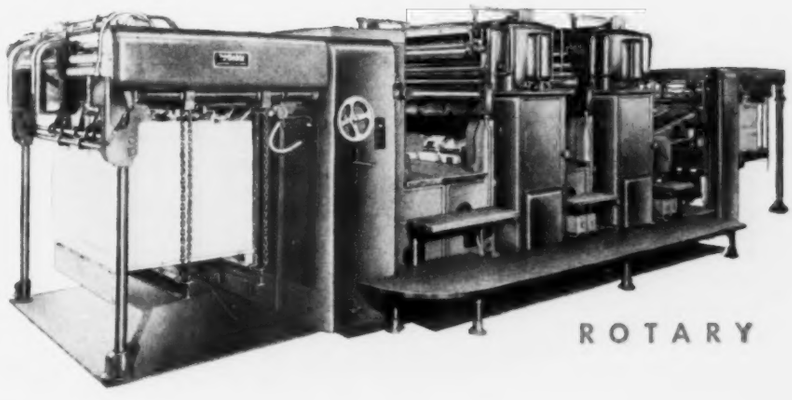
The new Miehle Sheet Fed Rotary makes possible high quality letterpress printing of large sheets at speeds comparable to competing processes.

Send today for complete information.



FLATBEDS

SINGLE COLOR			TWO COLOR	
Sheet Size	Speed up to		Sheet Size	Speed up to
28 x 41″	3000	41	27¼ x 41″	2800
33¼ x 45½″	2800	46	32 x 45½″	2500
42 x 56″	2250	56	38 x 56″	2250



ROTARY

Sheet Size		Speed up to
42 x 60″	61	6000
52 x 76″	76	5500

ONE COLOR • TWO COLOR • THREE COLOR
FOUR COLOR • FIVE COLOR

MIEHLE PRINTING PRESS AND MANUFACTURING COMPANY

Chicago 8, Illinois

WOOD OFFERS PRESSROOM

WOOD METROPOLITAN COLOR-ADAPTABLE BLACK UNIT: Engineered to meet the heaviest production schedules and to provide for future expansion. Standard equipment in pressrooms of leading newspaper plants.

WOOD METROPOLITAN COLOR UNIT: Designed to operate with Wood Color-Adaptable Black Units. Provides flexibility of R.O.P. color arrangement and fine reproduction at modern high speeds.

IF IT'S Wood IT'S GOOD

WOOD newspaper machinery and equipment will help any newspaper plant produce a better looking newspaper faster at a minimum cost. Send for descriptive literature.

OAND REELROOM EQUIPMENT

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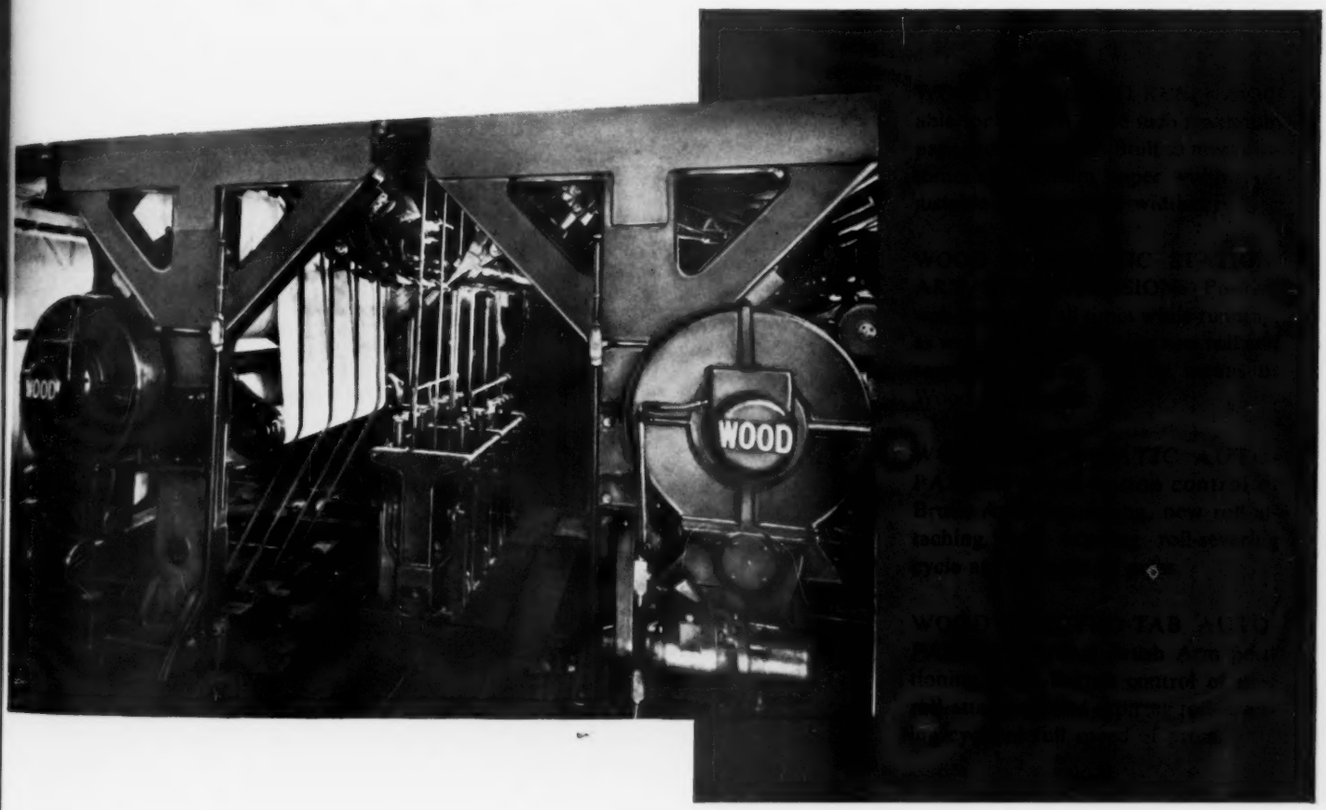

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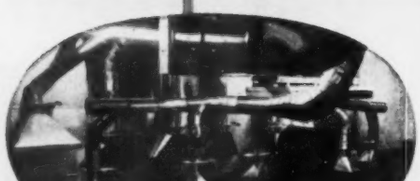

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PRINTING
EQUIPMENT
Engineer
November 1952

Humidification

Its effect in the Printing Industry

By **FRANKLIN C. WERTHEIM***
**Abbeon Supply Co., New York, N. Y.*

ALL users of paper stock and other materials which absorb moisture due to change in the water content of the atmosphere, are plagued by troubles that occur with the start of the heating season. Among these firms are: Printers, lithographers, paper manufacturers, converters, distributors, paper carton manufacturers and photogelatin process plants.

In this discussion we will look at what these troubles are, the reasons why they occur and what can be done to relieve the causes.

Paper, kraft board and Cellophane manufacturers are spending a great deal of time, money and effort in order to deliver to their customers material in the proper condition to go through the presses, folding or converting machinery at the highest possible speeds with the least amount of trouble.

As a general rule most materials are manufactured so that at a normal temperature range of 70 deg. F. to 80 deg. F. and a normal humidity range of 45% to 60% everything will run smoothly. However, unless a plant has been properly conditioned, while the temperature ranges may be proper, the humidity in the atmosphere will fall to a point at which the plant is actually drier than the Sahara desert.

The reason for this is simple—the lower the temperature of the air, the less moisture it can hold. A cubic foot of air at 70 deg. can hold approximately 8 gr. of moisture. A cubic foot of air at 32 deg. can only hold approximately 2 gr. of moisture. After this amount of moisture is in the air it starts to precipitate out (rain).

Now during the heating season your plant is bringing in air from the outside, which although it might be almost up to the saturation point, or it might even be snowing or raining, yet when it comes inside your plant that 100% humidity shrinks to a maximum of 25%, and on cold, dry winter days when the plant is snug and warm humidity can fall to 5% or 10%.

At low humidities, hygroscopic materials (paper, wood, leather, etc.) will give off moisture into the thirsty surrounding air. A difference in pressure exists between the interior of the material and the air surrounding the material and the molecules of vapor within the material hasten into the low pressure air around them. Any manufacturer who sells his product by weight is keenly aware of this.

Unfortunately, unless a sheet of paper is hung so that all sides and edges are exposed equally to the dry air, the loss tends to start at the exposed edges and we get wavy and curled edges, and some paper under dry conditions can roll right up into a tube. This makes high-speed feeding extremely difficult, if not impossible. Secondly, where it is necessary to go more than once through the presses, the bugaboo of off-register occurs, the sheet of paper having shrunk between the time it was first run and the second run. In folding machinery, we find the problem of stock and finishings cracking due to the dryness.

One of the greatest problems that occurs, particularly with thin stocks, is that of static. When the air is moist the electric charges that accumulate on any fast moving surfaces tend to jump from molecule to molecule in the air and eventually

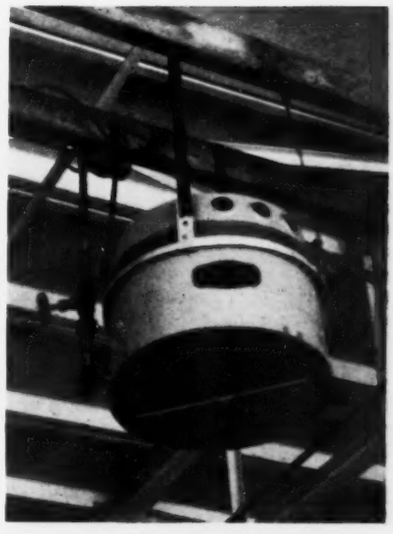


Fig. 1.—Industrial Humidifier—This unit is one most often used for humidifying pressrooms and paper storage warehouses as it takes care of a large area and is extremely flexible in that as many can be employed as needed. Four of these units can be operated from one simple central control. This unit puts out 1 gal. of vapor an hour. Installations of these units have been made where one unit equips an entire plant to as many as 186 units in one plant. They require no pumps, no steam, no compressor and no return water lines.

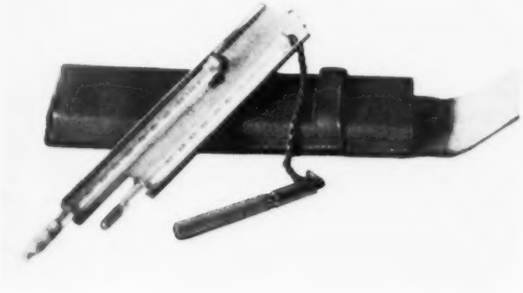


Fig. 2.—Sling Psychrometer—This is the instrument used by most humidification engineers to obtain accurate and immediate readings of relative humidity and temperature. In the hands of a skilled user readings can be obtained within one minute.

Fig. 3. — Portable temperature and Humidity Recorder. This instrument furnishes a chart of humidities and temperatures. It is very often used by plant executives who suspect a lack of humidity is causing their troubles.

ground themselves harmlessly into the floor. Dry air is one of the finest insulators known so that when the air is dry the static charges form and hold on the surface and act like magnets so that sheets will stick together, makes feeding stock difficult, causes a choke-up in the press and makes jogging troublesome. Where hygroscopic rollers and wood furniture are employed trouble can be serious.

In order to ascertain if problems are being caused by low humidity, as against any one of the numerous other factors that influence printing, such as history of the paper and quality of the inks, etc., you can ask yourself a simple question: Do you have more trouble on Monday morning at startup time than at any other time during the week? In other words, if everything has been drying out over the weekend, headaches on a Monday morning will be numerous.

Having decided that low humidities are causing your troubles, the next question that comes to mind is: What can be done to cure this condition? There are a great number of ways of adding moisture to the atmosphere, some of them good, some not so good, but all helpful to one degree or another.

Many printers have from time to time employed homemade devices, such as hanging wet blankets around the pressroom, boring holes in the radiators to bleed live steam into the air, sloshing buckets of water on the floor, constructing long troughs with electric fans to blow water over the surface and many other systems—some crude and some fancy, some ingenious and some foolish.

Fig. 4.—An accurate direct reading relative humidity indicator. This instrument gives the humidity and temperature at a glance without any calculations whatsoever. Has the advantage of requiring no calculations but has the disadvantage of requiring about 15 min. to go into equilibrium if moved from place to place. Accurate enough for general use, but not as accurate as a good sling psychrometer in the hands of a skilled user.

However, most of these systems do suffer from several failings, the first and most important is the difficulty of control. While filling the air with uncontrolled moisture will kill static, it still leaves unsolved the problem of off-register. Furthermore, in the long run these systems are more expensive than even the most expensive of the commercial systems due to the fact that they require a good bit of human labor to keep them operating—and today labor is expensive.

Under the heading of controlled systems, we find there are four main types. The first type is the best and by far the most expensive. It consists of installing a complete central station air conditioning system. In it is incorporated apparatus for cooling by refrigeration heating, dehumidifying in the summer time and spray chambers or other devices for humidifying in the winter time. From this central station extend sheet metal ducts throughout the plant. In this system it is important that controls for each zone be provided so each section of the plant will receive its proper proportion of humidity and temperature. This system is extremely difficult to install in established plants and should be closely analyzed for cost in relation to benefits accomplished for installation, even in new plants.

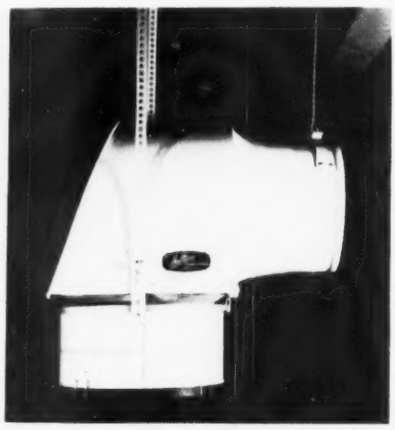


Fig. 5.—A large industrial humidifier which is capable of putting out up to 3 gal. of water per hr. and can humidify pressrooms and proper storage rooms of about 30,000 cu. ft. Can be installed by simply hanging from the ceiling running a water line to the unit and attaching automatic humidistat control to the electric circuit.

For equipment that only humidifies, we have three main types of systems, each of which has its advantages and disadvantages. First, the oldest type of system is the steam humidifier, which essentially consists of bleeding live steam into the operating area. In some types of machinery cold water vapor is added to the live steam in order to keep temperatures from getting out of hand.

These systems may be simply controlled with a humidistat operating through a solenoid valve. It has advantages in being relatively inexpensive in first cost, although the cost of producing the steam must be carefully considered and also whether the plant's boilers have capacity to provide the necessary condensate.

A second commercial method is that of using compressed air which is combined with water to emit vapor by means of a specially constructed nozzle. This is somewhat higher in first cost due to the necessity of installing piping, nozzles and usually a compressor.

The third method is that of individual unit humidifiers. These are simply connected to water lines and by means of centrifugal force throw out very fine vapor. These units can be procured in various sizes. The smallest will take care of space up to a few thousand cubic feet and the largest can take care of 30,000 cu. ft. and more. As many units can be employed as are needed to cover a given area and a simple humidistat shuts the power on and off. Some types of these individual units require no return water lines. They are reasonably low in first cost, easy to maintain and do an excellent job.

What is the best type of equipment for each plant is something that can only be determined by plant management after careful study. However, all manufacturers in the humidification field issue literature about their units, telling about their equipment. Some of them have gone so far as to publish special brochures specifically directed to the needs of the printing, lithographing and paper trades.

In closing, it might be well to point out one thing: Common sense is of prime importance in considering the advisability of entering into a humidification program. If you are running coarse stocks where quality and speed are not much of a problem and troubles due to a lack of humidity occur rarely, then it would be unwise to invest in machinery that could only be considered a luxury. However, if you are running quality jobs where speed of running and deadline are of importance and you find that problems caused by humidity occur frequently, then the investment in a humidification system will be well justified. The investment will be repaid many times over, both in actual cash results and in tangible benefits received through having satisfied customers.

Roller Gear Drives Bulletin

FERGUSON *Roller Gear Drives* is the title of an illustrated four page bulletin issued by Ferguson Machine & Tool Co., Inc. Some applications are: Paper feed on multi-color printing presses; Paper web feed drive on multi-color printing press; Match splint dieing machine—carrier chain indexing; Electric motor stator and coil winders. The Ferguson Drive is a device for obtaining intermittent motion and is specifically designed to speed up present machinery up to 200% of original capacity. General applications are for indexing dials, carriers and conveyors, and for feeding mechanisms. Units are designed for 8000 operating hours without maintenance. Please mention PEE No. 442 when requesting this bulletin.

Plant Cost Reduction

Considered at PIA Convention through foreman's training, work simplification, production standards, safety, quality control and technological developments

By MacD. Sinclair and Edward H. Owen

PRINTING management executives who gathered in St. Louis for the 66th Annual Convention of Printing Industry of America, Inc., October 13-16, concerned themselves with operating techniques in printing plants through which they could increase production and lower operating costs. High on the list of topics to be discussed were foreman's training, work simplification, production standards, quality control and safety. The attendance of more than 1100 gave to the meeting the distinction of being the largest convention ever staged by the PIA.

Theme of this year's gathering was *More Profits Through Better Management* to which the various addresses, panel discussions and exhibits were keyed. Sessions on reducing costs, industrial relations, increased productivity and selling were well attended.

Taking a prominent part in the planning of the convention was a committee composed of St. Louis PIA members headed by Clyde K. Murphy of Blackwell Wielandy Co., Inc., St. Louis.

Next year's convention will be held at the Edgewater Beach Hotel, Chicago. Exact dates will be announced later.

Increase Productivity Meeting Draws an Enthusiastic Response

ONE of the finest and most informative meetings held on Wednesday morning, October 15 at the Printing Industry of America convention was entitled *Increase Productivity*. The convention was held from Monday through Thursday at Chase Hotel, in St. Louis, October 13 to 16 inclusive. The meeting was touched off by an address by General Mgr. Frank F. Pfeiffer of Reynolds & Reynolds Co., Dayton, O. The title of his address was *Ways to Increase Productivity*. Among the subjects discussed were Foreman-Management Training Program, Work Simplification, Safety, Quality Control, Technological Developments and PIA Production PAR.

John M. Wolff, jr., PIA Vice President presided. He was assisted by a panel consisting of: William F. Gutwein, C. T. Dearing Printing Co., Louisville, Ky.; Charles A. Conrard, Western Printing & Lithographing Co., Racine, Wis.; Ralph M. Kramer, Employers Mutual Liability Insurance Co. of Wisconsin, Chicago; Col. Richard Magee, Standard Register Co., Dayton, O.; Edward J. Triebe, Kingsport Press, Kingsport, Tenn., President of the Research and Engineering Council of the Graphic Arts Industry.

Getting the Extra Productivity

Pfeiffer asserted that any one of the management executives in his audience can increase productivity if he is willing to make the effort. He told them he could tell them of no single big or important thing that would jump productivity. Hundreds of important little things make for the ultimate in productivity. He used the simile of the bottle of milk in relation to plant production. The cream is the stuff on the top of the milk—it is never found at the bottom of the bottle. Likewise, increased productivity is always found on top of normal production.

In drawing a clear cut parallel, Mr. Pfeiffer stated that certain breeds of cows give little cream while others give a high percentage. Some cows hold up their milk and make it difficult for their owner to obtain it. Some cows have such small plumbing that the extracting of their output becomes a problem. Further, some cows just won't submit to mechanical methods of milk extraction.

The speaker asserted that in preparing a program for increasing productivity in a plant, management will find it necessary to analyze and evaluate in three areas: Organization, Employees and Machines. "If you can get your attitude properly tuned at all of these three levels," he said, "all of the other things will almost automatically fall into line."

The first consideration with respect to getting productivity is to look over your organization to see if it is tuned to get more work from your people. Pfeiffer listed a number of questions to be asked: (1) Is your organization one that people work for or with? He said the difference is important. (2) Do your employees like their management people? (3) Is management friendly with them? (4) Do employees feel that management appreciates friendliness, goodwill and extra production? Or are you the bossy type that people envy because you act like you didn't earn what you have?

"There are only three kinds of employee attitudes toward management," he related. "These are *Plus*, *Zero* and *Negative*. Don't let your ego jump to the

One of the important sessions of the recent Printing Industry of America Convention was on the subject of *Increase Productivity*. Topics dealing with production in the printing plant were included on the program. The principal speaker and members of the panel participating in the discussions are shown above, from left to right: Col. Richard Magee, Standard Register Co., Dayton, O., *Quality Control;* William F. Gutwein, C. T. Dearing Printing Co., Louisville, Ky., *Foreman's Management Program;* Frank F. Pfeiffer, Exec. Vice Pres., Reynolds & Reynolds Co., Dayton, O., who delivered the basic address; John M. Wolff, jr., Western Printing & Lithographing Co., St. Louis, *PIA Production PAR* and Chairman of the meeting; Ralph M. Kramer, Employers Mutual Liability Insurance Co. of Wisconsin, Chicago, *Safety;* Charles A. Conrard, Western Printing & Lithographing Co., Racine, Wis., *Work Simplification;* and Edward J. Triebe, Kingsport Press, Kingsport, Tenn., *Technological Developments.*

conclusion that you are plus, because not more than one in ten employers in any industry is truly in that category.

"In preparing an increasing productivity program, let's check our policies, our attitude towards our people, our equipment and methods. Let's check our supervisory attitude and training, because irrespective of how you feel, if your supervisor is not tuned to the program, it will fail. Good supervisors aren't just born—they are trained—either self-taught on a trial and error basis, or in an organized way. Work simplification or methods improvement — how much knowledge does your organization have other than that acquired in your own business?

"Management's top job is that of coordinating human effort; it doesn't make much difference what the end product of that effort is."

Lex W. Claybourn (right), President, L. W. Claybourn, Inc., noted press inventor and developer of letterpress platemaking equipment, receives annual A. F. Lewis Man-of-the-Year Award at convention of Printing Industry of America held in St. Louis. Presentation was made by David W. Schulkind (left), President, E. P. Lawson Co.

Communications Must Be Two-Way

"Compare your communications system with the best," continued Mr. Pfeiffer. "You're going to need it if you are to gain the rich reward of increased production. Keep in mind that there is no such thing as one-way communication. The very definition of the word makes it a two-way proposition. You cannot talk effectively to your employees or your lower stratas of management unless you have provided adequate means for them to talk back.

"My personal experience indicates that a well managed suggestion system under which you are not afraid to pay off adequately is an important part of your communications program.

Eliminate Military Line

"From my own experience I can recommend that you jerk out the blocks of the normal military line organization and permit your employees to come direct to the very top of your company without first stopping anywhere along the line—at the foremen, personnel, superintendent or other level, unless they choose to do so. At Reynolds we call it "the open door policy." It has contributed more to our employee attitude, cooperation and teamwork than anything we have ever done.

"If you are not willing to set up the means of recording such things as production by machines or men, downtime, makeready time, idle time, impressions per hour or day, running hours, change time indirect or chargeable—don't start the program.

". . . the very knowledge among your workers and foremen that you are compiling records will, in and of itself, give you the first gain in production.

". . . next . . . enlighten all of your management people and your employees as well. Tell them about the program you are trying to accomplish. A part of your enlightenment program should be to sell your management and employee people on the need for higher production, lower cost, a sounder competitive position, more consistent quality, lower spoilage and more profit. I do not hesitate to talk to my people about more profit, because I have found them to be intelligent enough to understand that future expansion, job opportunity and new equipment come only from one source."

Hiring Policies

"How much care do you exercise in hiring people? I'm not talking about complicated aptitude tests for the average printer. I just want to know if you check on past work records, spend a buck or two for a basic medical checkup, hire girls in the bindery who have a reasonable degree of arm and finger dexterity, exercise care in selecting the right size and shape girl or man for the job. Don't hire shorties where a long reach is required, or tall people where the work is at a low level. Make sure they can count if the job requires it. You can avoid a lot of mistakes in hiring if you will write

an 'ideal worker' description for all of your jobs and then try to hire to that pattern.

"What kind of 'new job' training do your people get? You may depend upon the foreman to do the training job, but is he any good at it? Should you send him to a job instructor training course, or is he so busy that it might pay you to pick one of your better workers who has teaching ability and pay a slight premium to that person to break in your new help?

"After your new employees have been hired, does someone brief them in your organization, your product, your programs, your policies, etc.? Do you make it your business to meet every new employee, or if your company is too large for that, have you assigned such personal greetings to others in top management?"

New Officers of Printing Industry of America elected at the St. Louis convention, left to right: Treasurer (re-elected), Elmer M. Pusey, Judd & Ditweiler, Washington, D. C.; Secretary, William H. Walling, Rogers-Kellogg-Stillson, New York; Vice President, James J. Rudisill, President, Rudisill & Co., Lancaster, Pa.; President, John M. Wolff, jr., Vice Pres., Western Printing & Lithographing Co., St. Louis.

Foremen-Management Training

William Gutwein, Director of Employee and Public Relations, C. T. Dearing Printing Co., Louisville, Ky., presented a concise word picture of the activities of the Foreman's-Management Training Program during the past 18 months. Nearly 2000 executives have taken the program to date. He said the program is designed to put foremen on management's side. "We want them to be interested in the things in which management is interested," he explained. "We want them to see the management picture as if they were standing in management's place."

Arthur W. Snapper, Executive Vice Pres. of Milprint, Incorporated, Milwaukee, Wis., elected President of the Union Employers Section of Printing Industry of America.

The course teaches foremen to think. It helps advise them with respect to following up what they have already learned. It teaches them how to check themselves to see that they don't make the same mistake again. It teaches them to think so they will be sources of inventive ideas.

A considerable number of questions were asked by top management executives from the floor about the Foreman-Management Training Program.

Someone asked if it is better to bring a new foreman into the plant from the outside rather than to promote him from the ranks and what effect the Training Program would have in each case. It seemed to be the consensus of opinion among several management executives that wherever possible a man from the ranks should be promoted from within the plant. Provided, of course, he has the ability to supervise people. Gutwein said the FM course worked both ways. It will help put across the foreman from the outside. The local foreman must cross the barrier he encounters when promoted because of former intimate association with his fellows on the journeyman level. He, too, needs the course to put himself across.

In answer to a query, it was advised that it is better to keep a training class within 15 men and not mix anyone in with a class from outside.

One prominent printing executive related that the foremen in his plant received the FM Training course. After the course had been completed the firm installed a suggestion box and now holds monthly meetings of executive personnel. Those invited consist of management, the sales manager, the estimator, superintendent and foremen. Thus in the discussions both sides of controversial questions are obtained. Those attending the meetings have acquired entirely new viewpoints.

William H. Egan, President of the Egan Company, Dallas., Tex., is now President of the Master Printers Section of Printing Industry of America. Egan has been a director and member of the executive committee of PIA for the past four years and was its secretary in 1950.

Another prominent Eastern printing executive said the course teaches foremen some of the problems of the industry itself.

In a number of cities it was reported that management executives took the FM course previous to it being given to the plant foremen. In this way, reported one executive, top management was made conscious of the need for the course being given to foremen.

A question was directed to Mr. Gutwein from the floor in which he (Gutwein) was asked if union shop stewards were included in the training classes. Gutwein explained that in his plant International union officers, shop stewards, negotiators and prospective foremen were trained. These men gave a hearty OK to the aims and objectives of the course.

A number of top management executives testified freely regarding the benefits they had received as the result of their foremen taking the course.

In response to a question, Mr. Gutwein discussed the fine cooperation received from the Intl. Assoc. of Printing House Craftsmen. As a result, a manual has been prepared especially for use by local Craftsmen's Clubs. The manual is a guide to clubs holding their own meetings, particularly in towns where the FM course is not readily available because of isolation. Craftsmen are taught to play printing plant roles and how to hold panel discussions.

A brief analysis of this section of the Increase Productivity meeting carries with it two thoughts: (1) An entirely new executive is being made out of the foreman taking the course, and (2) The FM course is bringing out a lot of qualities which top management didn't know foremen possessed.

Work Simplification

C. A. Conrard of Western Printing and Lithographing Co., Racine, Wis., discussed Work Simplification. Much of his discussion was related to a definition and the meaning of Work Simplification.

In the course of his explanation, Mr. Conrard said that Work Simplification is an organized method of finding ways to make work simpler. Its purpose is to find the best way to do a job in any plant. Another objective is to make a better product or render better service at lower cost. Work Simplification makes employees realize it is necessary for them to become conscious of costs.

In introducing Work Simplification into a plant, employees should be made to feel they are part of a team. Their work is to be made easier and more simple. Motions will be eliminated. It should also be carefully explained that Work Simplification is not a speed-up in any sense of the meaning of the word.

Human nature resists changes. In many instances, top management also resists changes. After management realizes the benefits accruing from Work Simplification, it should be careful when introducing it into the plant so that a foreman won't feel that it is a criticism of his methods or his supervision. Management must also teach foremen the economic facts of life related to Work Simplification with respect to cost.

When following Work Simplification, everybody concerned is from Missouri. He wants to know why. Everybody should feel that he is working smarter—not harder. Also, Work Simplification won't mean they, or someone else in the group will be out of a job. Work Simplification overcomes resistance to change and criticism.

In Work Simplification the *big* idea is to get ideas from the workers *and* from the foreman and to get people *themselves* to improve the job and ways of doing things.

A question from the floor was directed to Mr. Conrard respecting monetary rewards for ideas. In some plants recognition is more appreciated by the worker than money. Recognition can be bestowed by an article in the house organ, percentage of first year's production savings, by a movie, and in various other ways.

Someone asked from the floor what course should be taken with respect to the introduction of new devices in any department of the plant, for instance, the Tally-Tab counting mechanism. The complete answer was not given from the floor because conditions vary from plant to plant. But in general, the FM course will be an invaluable aid in such instances. One of the "musts" is that an explanation should be given to the employee that there are easier and better ways to do things. Not all plants in every instance can give assurance that no one will be laid off work from a specific hand craft job when mechanical devices are introduced. Employees must be made to realize that the more costs can be reduced the greater volume of printing can be secured. The general tenor of the discussion among the executives was that no one wants to install automatic devices simply for the sake of laying off employees, but as stated above, the prime motivation is to secure greater work volume at lower production costs in order to keep all employees busy.

Safety Developments

Ralph M. Kramer, Employers Mutual Liability Insurance Co. of Wisconsin, Chicago, presented a serious discussion on *Safety in the Printing Plant* and how it can also help production. He said there is no magic safety program. Safety has to be organized and applied just like production. Management has to depend upon foremen to carry out a safety program. On the other hand, management must take an active part and give financial aid. An important part of the training program is to prevent recurrence of accidents. With respect to indirect cost of accidents, a sound safety program will eliminate a goodly part of those costs. Moderator Wolff announced that a PIA Safety Manual is being prepared for distribution to the membership.

Smoking on the Job

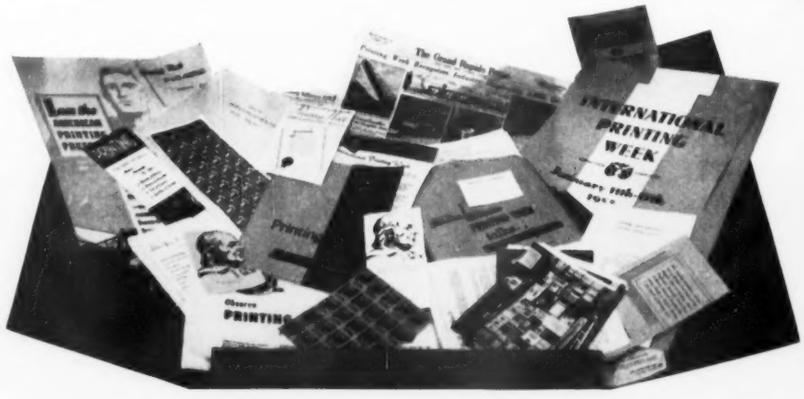
Someone asked if smoking on the job is a problem. After some more or less desultory discussion, A. S. Wentworth, General Mgr., Printing Div., Westinghouse Electric Corp., Trafford, Pa., arose to state that smoking on the job helps production. The question came up: "Do you have designated areas in which smoking is permitted?" Moderator Wolff said: "We do not have designated areas in our plant but some of the employees do."

Quality Control

Quality Control was discussed briefly by Col. Richard Magee, Standard Register Co., Dayton, O. He said a simple definition of quality control is the exercise of common sense. What one really tries to control is variability. He illustrated quality control in graphic manner by exhibiting a number of charts. His best illustration of quality control occurred when he exhibited a color diagram of a section of roadway. As long as the driver is on the green roadway, quality control is functioning satisfactorily. If the driver should permit his auto to travel partly on the yellow shoulders he is warned that the job is not printing satisfactorily and measures should be taken to get the car back on the green roadway. If the car is driven beyond the yellow strip it either lands in or struggles along the red strip in the diagram which represents the ditch. His other chart explanations were equally illuminating. In answer to a question from the floor, Colonel Magee stated that quality control has not been made effective in the pressroom area on runs of 10,000 impressions. The problem is being worked on by quality control engineers whom he believes will come up with the answer. Quality control actually is a means for saving waste and lowering production costs.

R&EC Vitally Helpful to Industry

Edward J. Triebe, President of the Research and Engineering Council, and who is also Vice President of Kingsport (Tenn.) Press, presented a most illumi-



Printing Week Kit—This impressive display of printed promotional material was assembled and prepared by the Intl. Assoc. of Printing House Craftsmen. The working kit is being made available to all local Craftsmen's clubs participating in the Printing Week observance, January 11-17. According to Ferd Voiland, jr., Intl. Printing Week Chairman and State Printer of Kansas, the thirty odd units in the kit are designed as aids in planning the work and working the plan of the 1953 program. One of the most valuable pieces is a 28 page Manual of Procedure which contains the contributions of several Craftsmen who have had experience in planning the annual event. Written for the local Printing Week chairman, it includes basic ideas for successful organizational functioning.

Other important items in the 22½ in. by 28 in corrugated container are the official 1953 Printing Week stamps and posters printed from the winning designs selected at the Craftsmen's Convention in St. Louis. A complete unit of radio spot announcement material has been prepared for distribution by the local committee to radio stations for publicity purposes. An envelope within the kit encloses a Library of 15 Prepared Talks on Printing Week which accentuate the contribution of the Graphic Arts. Voiland says any speaker may draw upon the resources provided in the Library for subject material or for completely documented talks keyed for delivery in 5 min. or for a principal address requiring 30 min.

Other contents are a collection of samples of printed pieces issued by Craftsmen's clubs and Graphic Arts firms in cities where Printing Week was previously observed. These serve to show working committees what has been done by other groups and are intended as ideas of what can be done in the 1953 celebration. A prominent piece in this group is a special 12 page newspaper supplement on Printing Week which appeared in the Grand Rapids (Mich.) *Press*. It includes an array of individual articles relating to the Graphic Arts, as well as ads inserted by printing firms in that city.

Additional copies of several units in the kit are available on request to the International. Not included in the kit, but in preparation by the Intl. committee, is a newspaper clip sheet of actual news stories which may be adapted to the local club's plans.

nating talk about the aims and objectives of the Council in the Graphic Arts industry. He told about the Rye, N. Y., meeting last December. The Council's slogan is "More ink on more paper at less cost." In the industry there is a tremendous amount of waste in overlapping and duplication of effort in research and developmental work. Also, the Council is a potent force in seeing that the industry will be supplied with long needed equipment. He discussed a number of Council objectives. One of these, he said, is the cutting problem in which the top sheets in a lift are never cut the same as the bottom sheets. An individual cutter of some kind for accurate work can be developed. Other problems which are being or will be worked on by interested firms under Council persuasion are counting, adhesives, linecasting machines, etc. He related that manuals will be published soon on plastic plates, painting and lighting, and detergents and solvents. The next important Council meeting will be held in Chicago early in December. This two-day meeting will be called the Make-ready Conference. Addresses will be directed to production men, superintendents and pressroom foremen.

Electrotypers Discuss Research—Printing Plates Research, Inc., a group of electrotypers sponsoring organized research in the electrotype industry, held a Development Committee meeting recently in Des Moines, Ia. Purpose of the meeting was to review the research activities being conducted at Battelle Institute, and to review and discuss further research activities for the coming year. While in Des Moines, the group visited the Capital City Printing Plate Co., a member of the sponsoring organization, where they were shown the centrifugal curved cast electrotype process used in that plant.

Those in attendance at the meeting, standing, left to right: Joseph Schwartz, Westcott-Thomson; Raymond Kreber, Von Bolt Kreber Electrotype Co.; Claude McBroom, Director of Mfg., Meredith Publishing Co.; J. Homer Winkler, Battelle Institute, Columbus, O.; Edward Lynch, Conde-Nast Publications, Inc., Greenwich, Conn.; Dennis Hoynes, Central Electrotype Co., Cleveland, O.; Frank J. Flanagan, American Electrotype Co., Cleveland, O.

Seated in front of those standing, left to right: Robert Jackson, Attorney for Printing Plates Research, Inc.; Donald Byers, Research Engineer, Battelle Institute; Robert Leininger, Battelle Institute; Rudolph Lowell, Patent Attorney; Frank Field, Foreman, Capital City Printing Plate Co.; Vince Vodak, Capital City Printing Plate Co.; Lloyd Partridge, Partridge Anderson Electrotype Co., Chicago; Gene Meston and R. R. Myers, Capital City Printing Plate Co.; C. A. Mawicke, Pontiac Engraving and Electrotype Co., Chicago.

Across the table, left to right: W. E. Reid, Battelle Institute; Everett Jones, Foreman, Capital City Printing Plate Co.; E. J. Carl, Superintendent, Capital City Printing Plate Co.; Charles McNellen, Bomac Electrotype Co., Toronto, Can.; Gerald Stouffer, Asst. Director of Mfg., Vern Mauk, Director, Printing Plate Div., Perry Albough, Pressroom Supt., Floyd Green, Manager, Inspection and Electrotype Dept., all of Meredith Publishing Co.

Personnel Important in Cost Picture

A FEATURE of the session devoted to Cutting Costs at the St. Louis Printing Industry of America convention was a panel discussion in which four members of the industry, each a specialist in a particular phase of printing management, participated. Panel members and their subjects were: J. R. Jackman, Rumford Press, Concord, N. Y., *Financial Aspects of Cutting Costs*; Jack Manning, Joplin Printing Co., Joplin, Mo., *Sales Aspects of Cutting Costs*; Robert G. Griffin, Vice Pres., Courier-Journal Lithographing Co., Louisville, Ky., *Production Aspects of Cutting Costs*; and A. A. Hadden, President, McClure, Hadden & Ortman, Chicago, *Personnel Aspects of Cutting Costs*.

Griffin was asked by a member of the audience how the output of the individual worker could be increased. He replied that management must first start with the proper selection of new employees and institute a training program to indoctrinate new workers.

He advocated, also, the reduction in turnover of personnel as a means of increasing production. Training of new employees should be done on a regularly planned program basis. It is management's responsibility, he said, to encourage employees on ways to do their jobs better.

Speed-up Programs Unpopular

No speed-up program imposed from the front office will do the job in boosting production goals, he continued. Such programs are resisted by the employees themselves. He reminded the PIA executives that they must have the understand-

R. R. Myers (right), President, Capital City Printing Plate Co., Des Moines, was honored at recent meeting of Printing Plates Research, Inc. in Des Moines, Ia. Dennis Hoynes, Treasurer, Central Electrotype Co., Cleveland, is presenting Mr. Myers an Honorarium for his several years of service and technical assistance as head of the Development Committee on research activity in the electrotype industry. Myers is also a charter member of Printing Plates Research.

Industry to Celebrate

THERE are almost 44,000 printing establishments, large and small, in the United States. They employ almost 716 thousand people. January 11 through 17 is designated Printing Week throughout the United States, Canada and Hawaii. Join in the nation's salute to our industry.

ing and acceptance of the men doing the job.

Be sure a worker knows what he's supposed to do on his job, Griffin said. He added that though this sounded elementary and unnecessary, it was often overlooked in some plants. Once the worker knows what his tasks are, he should know how to perform them in an efficient manner.

In line with proper instructions for the employee, the panel member said that too often, job envelopes which should contain the proper instructions, are incomplete. This results in the loss of important productive man hours.

He suggested that printing plants prepare a job analysis and job description for each worker to overcome uncertainties and disagreements on what the individual employee must do.

Griffin named several ways on how to motivate employees as follows: make his job easier by encouraging work simplification ideas; supply the worker with good material and equipment with which to work; institute incentive programs, such as suggestion boxes, volume bonuses, profit sharing plans, etc.

Personnel Dept.'s Functions

Mr. Hadden was asked what specific steps should be taken to reduce personnel costs. He answered that personnel departments can relieve management of a great deal of personnel headaches and can function as helpful units in reducing costs.

The selection of employees is the first and foremost duty of the personnel department. It should screen workers to determine and detect their attitudes as well as their aptitudes.

A function of the department should be to help plan manpower requirements so that a reservoir of skilled and dependable workers is available when production orders necessitates their being used.

The indoctrination and training of new employees was named as still another duty of the department by the speaker. He said that his should include a statement of company policy. Personnel departments can likewise participate in the development of training programs.

Hadden remarked that these departments should take the lead in establishing a plant safety program. Housekeeping is another aspect of its duties. The personnel division should call attention to poor housekeeping methods practiced in any of the production departments. It should recommend and suggest ways of correcting poor working conditions for the morale of employees.

He commented that some personnel departments even make employee opinion surveys in order to obtain ideas. He observed that such devices often bring out weak spots in the organization which, when corrected, have a bearing on cost reduction.

Profit Sharing Plan

Of interest to those in attendance at this meeting was a profit sharing plan installed in the plants of Western Printing & Lithographing Co. and which was related by its president, John M. Wolff, jr., who was also Vice Pres. of the PIA. Wolff said that in order for employees to be eligible for the plan, they must have been on the payroll for at least six months.

Payments are made twice a year, he continued, in May and November. The amount is based on a percentage determined by the Board of Directors of the gross profit before taxes. Each employee is classified as to length of service to the company and the amount of his earnings.

Mr. Wolff observed that many employees personally thank him for the checks in his trips through the plant. He in turn, reminds the workers that it was only through their efforts that it was possible to give them the additional money. He said his stock answer was: "Don't thank me. You earned it yourself."

He remarked that the results of this plan have been beneficial in the successful operation of the Western plants. He said that it enables the company to obtain better overtime work from the employees. He also observed that since the plan was put into effect in 1947, employees who fail to carry their full share of the production load are prodded by other workers. Wolff added that the profit sharing plan was determined by the Board of Directors as to the amount paid out and if a profit sharing dividend can be declared.

Industry Faces Manpower Shortage

THE printing industry, as all other industries in this country, will be faced for the next several years with continuing high taxes, constant attrition of profit margins and a prolonged labor shortage, predicted Peter F. Drucker in his keynote speech before the Printing Industry of America. Drucker, a member of the editorial staff of Research Institute of America, addressed PIA members at the opening session of their annual convention on October 13 held at the Chase Hotel, St. Louis.

Drucker said that with high taxes and high costs, industry will suffer a continuing shrinkage of profits. Much of the so-called profits during the last 12 years have really been "paper profits"—money taken out of the business that should have been placed in an augmented depreciation account to replace plant building and equipment at inflated prices. High prices and swift technological change have made old depreciation policies unrealistic, he added.

Critical Manpower Shortage

American management is not sufficiently aware of the manpower shortage that is developing, Drucker warned. We are in a period of full or over-employment of such proportions, he continued, that even a recession wouldn't cause any serious unemployment. Because of the small number of babies born during the depression 1930's, the number of youths who will reach 18 will decline each year until 1959, when the bigger boy crop of the 1940's will improve the supply of new labor.

Besides the decline in the number of youths, the number of people reaching 65 will increase each year, he said, reaching a peak in the next eight years, then will level off. Thus the labor supply will be curtailed at both ends of the employable age groups.

Drucker urged businessmen to pay more attention to cost control, adding that the printing industry is doing a better job on costs than any industry he knows. Costs can be reduced and the break-even point lowered by better cost policies and methods of selection, training and utilization. He noted that human resources are at present our scarcest commodity and said that we can't afford to be wasteful of them.

Reports to the Convention

Other speakers at the opening ceremonies of the convention were PIA President, Arthur A. Wetzel, President of Wetzel Brothers, Inc., Milwaukee, Wis., and PIA Vice Pres., John M. Wolff, jr., President, Western Printing & Lithographing Co., St. Louis. Both gave their annual reports to the PIA membership. The invocation was given by Raymond Blattenberger of Edward Stern and Co., Philadelphia, and the welcome to St. Louis was extended by Joseph F. Holland. The report of the committee to nominate 1952-53 PIA Board of Directors was read by the chairman of that committee and PIA Past Pres., Robert H. Caffee of William G. Johnston Co., Pittsburgh.

Improve Operating Methods to Save

RISING costs of almost every element which goes into the product make it necessary to review constantly and continuously each activity of the printing business, said Walter F. McArdle, President of the McArdle Printing Co., Inc., Washington, D. C. McArdle addressed the 66th Annual Convention of Printing Industry of America, held in St. Louis, on the subject *A Cost Reduction Program*. He added that this review was necessary in order to maintain position, to say nothing of improving it.

McArdle said: "Insofar as cost reduction in a plant is concerned, improvement of methods of operation are of primary importance. There are probably very few printers who could not, by the application of some of the basic principles of motion economy and the techniques of work simplification, make appreciable savings."

On the subject of equipment as an element of costs, he advocated keeping the machines in good condition as the best way to avoid excessive repair costs. A requirement is a scheduled program for oiling and cleaning all equipment.

"It is the responsibility of the supervisor to see that such a program is carried out faithfully. Many companies have a check list which must be completed periodically by whoever is responsible for this duty, which includes a report on the condition of bearings, bearers and ways, as well as the general condition of all equipment.

Controlling Maintenance

Continuing on the subject of maintenance, the speaker said: "If you have a repair shop, do not permit unrestricted repairs to be made without some control. One method which has been successful is to permit immediate repairs without authorization up to the limit of about $20 for labor and materials. If the repair will cost more than this amount, a project and an estimate must be prepared. This must be OK'd by management. and a record of the actual cost is kept to check against the estimate."

What Can Supervision Do?

The relationship between supervision and costs was described by McArdle as ". . . a major problem throughout the industry today. We should not be concerned as much with the cost of supervision itself as with what supervision can do to reduce costs and maintain economical production.

"The supervisor is directly responsible for holding the costs in his department to the budget. This applies to such items as production time, idle time, indirect labor and the economical use of supplies. It may also extend to preventive maintenance of equipment and effective cooperation with other departments.

"He is also responsible for the morale of the men and women who work under him, and, subject to the policies of the company, he is expected to keep grievances from becoming major issues, while observing all of the regulations and restrictions with which industry is surrounded today.

"A good supervisor is worth whatever you can afford to pay him, as he can save wages many times over, every day of the week. A poor supervisor is expensive no matter how small his wages may be."

Selecting Equipment

One of the important sections of McArdle's talk to the PIA members concerned the selection of production equipment for the plant. His suggestion was that the printing executives plan their purchases of equipment to produce most economically the kind of printing which was done in their individual plants in the greatest volume. He added: ". . . it does not necessarily follow that the larger the press, the more economically it will produce." He named some of the variables to be taken into consideration in choosing equipment as the length of the average run, the particular field of printing involved, the kind of customers you have or are building up, etc.

The speaker presented an analysis of the actual jobs run by four printers, ranging from 7 to 100 employees over a period of one month. It showed, he stated, that out of a total of 1308 jobs, only 317 or 24 per cent were more than 10,000 imp. and 195 jobs or 15 per cent were two or more colors.

"Obviously," he said, "these plants have little use for large presses. Management must determine where its place in the production field is to be taken and on that basis, with the aid of production standards, the determination of the kind of equipment should be made."

Utilizing Specialty Sources

Acknowledging that every plant has equipment which is seldom used, McArdle advocated giving the work performed by such machines to specialty plants. He named four advantages to this, as follows: (1) The company is relieved of the responsibility of supervising an unfamiliar operation; (2) The cost of the work will be no more and perhaps less; (3) The company is relieved of the necessity of keeping an employee whose time cannot be wholly and effectively utilized; and (4) The quality of the work may be better than can be produced in your own plant.

"There is an increasing trend toward specialization and while all printers cannot be specialists, anymore than all doctors can be specialists, it will pay you to know who and where the specialists are so that you can make use of them for your own benefit.

"Whenever there is equipment in your organization idle either a part of the time or all of the time, you should attempt to find a means of getting full utilization or investigate the use of outside sources."

Better Planned Operations

In his concluding statements, McArdle said: ". . . cost reduction is composed of intelligent planning and pre-determination of costs rather than a waste correction program after excesses have been encountered. Operations must be better planned and more expertly directed. Wastes of time and materials must be reduced in the face of more intensive competition.

(United Press Photo)

Starts Production on Long Novel—J. C. French (right), Composing Room Supt. at Houghton Mifflin's Riverside Press, Cambridge, Mass., examines a chapter of what is believed to be the longest American novel ever accepted for publication. Linotype Operator Harry Tenney is at the keyboard setting the first pages from the manuscript. The novel, the manuscript of which can be seen piled at the left, was written by Madison A. Cooper, jr., a Waco, Tex., businessman. It has been estimated it will contain about 2000 printed pages when published. The novel is as yet untitled.

"In the future, the whole printing industry will be no better than its component parts. The individual plant must be better planned and more efficiently organized and operated if the industry is to continue its forward progress.

"In order to meet their responsibilities, management must constantly improve the tools for direction and control of the business.

"Don't forget that the series of 'gears' which operate your organization are dependent one on another for maximum efficiency of the organization."

Work Simplification Is Explained Clearly

FOLLOWING the *Ways of Increasing Productivity* meeting, the *Work Simplification* section of that meeting was continued on Thursday, Oct. 16 at the St. Louis PIA convention. Chairman of this meeting was Charles A. Conrad, Western Printing & Litho Co., Racine, Wis. He was assisted by a panel of two well known men: Harold Crawford, Standard Register Co., Dayton, O., and Gordon Rhode of Reynolds & Reynolds Co., Dayton, O.

Through a series of movies, prime examples of Work Simplification adopted in plants of Western Printing & Litho Co. and at Reynolds & Reynolds Co., were shown.

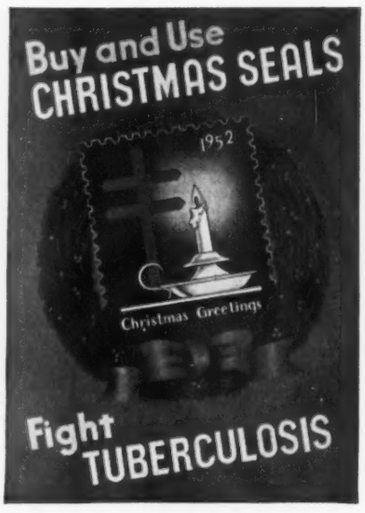
Cleaning Ink Spatulas

One of the movies showed how a method of cleaning ink spatulas was developed. Formerly, the knives were cleaned with cloths saturated with solvent. This was a rather messy job. The improved method consists of cutting a slot in the lid of an ink can through which to pass the knife blades to be cleaned. Inside the can, two Tampico type bristle brushes were closely mounted, bristle to bristle, in upright position, immediately underneath the slot in the can lid. The can was filled with ink solvent. When the ink spatula blade is passed between the bristles of the brushes, the ink from the blade is floated off into the solvent. Merely wiping off the blade with a dry cloth after a couple passes between the brushes greatly simplifies the spatula cleaning operation. Most of the ink from the spatula blades settles in the can. The brushes mounted together in a frame are easily cleaned when necessary.

Yet another graphic illustration of the sound economics of Work Simplification was that in a plant where considerable imprint work is done. In this instance, the composing room and the platen pressroom are adjacent to each other with a solid wall between. Frequent form changes are made. In the old condition, the composing room makeup man, after locking the form containing the imprint change, would walk around the wall and through two doors to get to the pressroom. In returning the forms to the composing room, the same wasteful footpath was followed. To conserve the traveling time, unnecessary energy and footwork, a small door was cut in the partition between composing and pressrooms through which the forms are now passed.

Work Simplification Principles

Gordon Rhode, Reynolds & Reynolds Co., Dayton, told how to get a work simplification program started. Such a program must start with top management. There is a five-step pattern which usually is followed to improve work methods: (1) Pick a job to improve; (2) Break it down, list all details; (3) Challenge each detail; (4) Work out new method; (5) Apply new method. The ultimate objective of work simplification is to save money and to make work easier. At Reynolds & Reynolds Co., a committee awards 15% of the first year's savings. During the past two years, over 300 suggestions have been accepted. The person suggesting an idea must submit the means for accomplishing the savings along with the idea. Mr. Rhode said foremen are not hard to sell the work simplification idea.



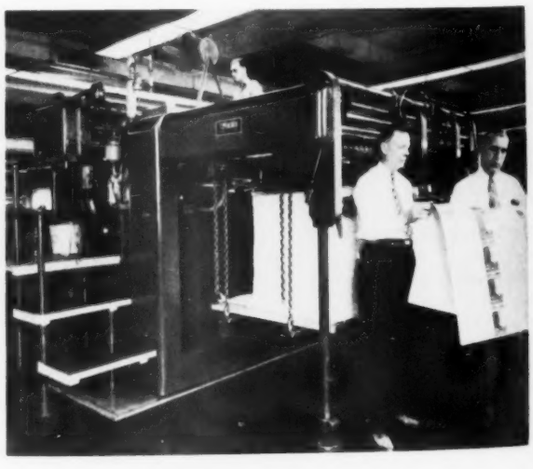
Harold Crawford of Standard Register Co., Dayton, O., exhibited a movie showing how *not* to introduce work simplification methods in a department. In this instance, a plant engineer talked directly with the worker and demonstrated a device. He by-passed the foreman. Crawford explained that these ideas can be put across by holding conferences with selected workers, the foremen, and management representatives, during which the idea behind work simplification is explained fully. Mr. Crawford stated that at Standard Register merchandise awards are given for ideas which are adopted.

Answering a question from the floor about a commercial plant where the jobs vary considerably and are not primarily a standardized product, it was stated that some work simplification ideas can be worked out, for instance in makeready and materials handling. There was some speculation as to whether or not work simplification methods could be applied to the smaller commercial plant. At the moment, Printing Industry of America is gathering data about all plants, large and small. It was suggested that management tell PIA how many people are employed and how many supervisors there are in the plant. Also ask how to get a work simplification program started without necessity for sending a representative to another city to take a special course at considerable expense. Various techniques for conducting work simplification programs in those plants already using them were explained.

PIA PAR Guides Printing Production

A DISCUSSION on PIA Production PAR techniques from both the engineering and practical viewpoints was held at the Production Standards Clinic during the St. Louis convention of Printing Industry of America. The panel meeting was conducted by Z. Wayne Adams, Executive Vice Pres., Magill Weinshimer Co., Chicago.

All plants, regardless of size, must use some form of production data, said the first speaker, Kenneth R. Fink, Senior Engineer, McClure, Hadden & Ortman, Chicago. He said: ". . . in a very small shop, the plant manager may keep all of the production knowledge in his head,



Miehle Installation at GPO—Two No. 61 Miehle Offset Presses were recently installed at the Government Printing Office, Washington, D. C., according to a report by Miehle Printing Press & Mfg. Co. Shown here inspecting a printed sheet from one of the presses are, left to right: E. Burgee, Asst. Foreman Offset Section, and John L. Grant, Supt of Presswork, both of the GPO. The pressman is unidentified.

New Craftsmen's Club Receives Charter— Gordon J. Holmquist (left), recently elected President of the Intl. Assoc. of Printing House Craftsmen, Inc., presents the official charter to Elmer W. Polzin, President of the Rocky Mountain Club of Printing House Craftsmen, at the club's first meeting held recently in Denver, Col. Perry R. Long, first president of the International, and a group of new Craftsmen, look on.

and run the plant on verbal orders. If his production facts were accurate, he might do the job and do it well. However, as the plant continued to grow and plant operations became more complex, it would no longer be possible for him to keep all of the production information in his head. Supervision would have to be added and communications would become more involved.

Must Rely on Others

"It is at this point that production control depends upon a knowledge of production facts, good organization and sound judgment. The plant manager must realize that as the plant grows and production problems become more complex, there is more and more need for relying on the help of others."

Fink suggested knowing the following in order to effectively control and operate a printing plant: capabilities of men and machines in the plant; how much work remains to be completed in order to fill current orders; what work is anticipated for the future; and what materials and supplies are needed and when.

He said that PAR is a tool to help in determining these facts through production standards. "The time required for each operation," he added, "is the most important factor affecting the ability to control production. Estimated times could be used. However, the time required can be gauged more accurately when time standards are an established part of the operations."

PAR Training Course

The speaker revealed that a training course on the use of PAR is to be started in different local areas. As part of the training, there will be actual class problems and exercises. These will include compiling production data with PIA score sheets, analyzing the score sheet information, establishing performance standards for operating purposes, planning and scheduling, determining plant capacities, etc.

The course will cover about 20 hrs. of instruction, problems and discussion and will be given as an intensive three day conference. He added that the schedule of local area classes will be announced by the local association.

Speaking on the practical use of PAR, Stephen Matuchek of Wolff Printing Co., St. Louis, said that any printing firm, having any size or number of presses, can use production standards to their own advantage. Matuchek mentioned that 52 per cent of all makeready operations performed in the Wolff plant are under the figures as listed in PAR.

1800 i.p.h. Difference

He told of finding a difference of 1800 i.p.h. in two presses of the same make and model. One press was in the St. Louis plant of Western Printing & Lithographing Co., of which the Wolff firm is a division, and the other in the Racine, Wis., plant. He said that they just couldn't simply tell the Racine division that they should be getting 4000 i.p.h. from the press instead of 2200 i.p.h. The problem was to find out why such a difference existed between the production of the two presses. Investigation showed that the pressman in the Racine plant was older and was accustomed to running his press at a slower speed instead of the production speed which was intended for the press.

Someone asked Mr. Fink at what point it was advisable to forget the figures in PAR and for the plant to establish its own. He replied that PAR was set up as a guide and doesn't have to be followed as listed. Most variables in production can be controlled, he added, but some companies may not want to go to the expense of doing so. Then, he said, it would be advisable for the firm to establish its own production standards.

In order to be able to understand PAR, Mr. Adams suggested that production executives "stay on top" of the instruction sheets and other information supplied. He related that in his plant, the estimator, superintendent and himself got together and worked out the system. He advocated assigning PAR to one particular person in an organization who is capable of making the system function.

Quality Control Saves Problems

QUALITY control, a recently introduced phase of PIA activities, was the subject of a panel meeting conducted at the Printing Industry of America convention in St. Louis. The means of establishing quality control practices in the printing plant and the benefits derived from such practices were discussed by three speakers. Chairman of the clinic was Col. Richard Magee of the Standard Register Co., Dayton, O.

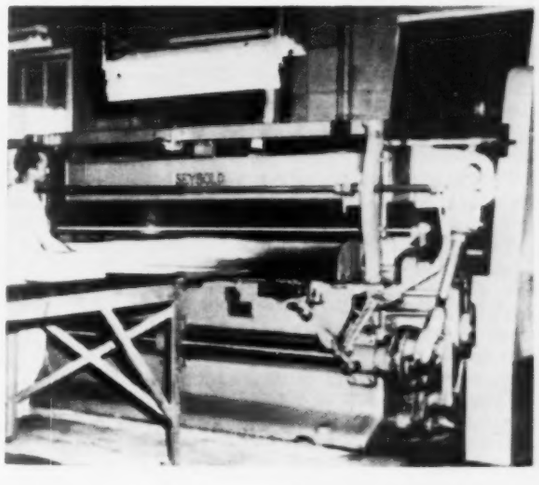
O. Herbert Somers, the first speaker, told the printing executives of PIA that charts and graphs made by quality control engineers serve to persuade workers to do a better job by showing them what went wrong on a particular order. Somers, who is associated with Western Printing & Lithographing Co., Racine, Wis., classified the types of defects into three categories as follows: critical which is unshippable work; major which is of a serious nature; and minor.

Workers Told of Defects

Quality control engineers at the Western plant, he commented, have no authority to tell the men what to do.

He said that if the quality control engineer finds a critical defect in the work he is testing, he goes directly to the supervisor to inform him. If the defect is of a

Canadian Firm Installs 94 in. Seybold Trimmer—Claimed by Harris-Seybold Co. to be the largest paper trimming machine in Canada is this 94 in. Seybold, recently installed at the Georgetown mill of Provincial Paper Ltd. The trimmer is equipped with Seybold's air film table to facilitate handling of stock and two conveyor tables. One is used for loading stock in the trimmer from the back and the other is used for unloading the machine from the front. Hydraulic-lift tables are used at the end of each conveyor. The cutter knife is reported to be changed every 8 hrs. The machine has a foundation of steel and concrete to a depth of several feet.



major or minor nature, he will simply call it to the worker's attention. Employees, he added, usually appreciate this relationship for the trouble is often something they had overlooked or didn't know about. However, if the defect is not corrected after informing the worker, then the engineer goes direct to the supervisor.

Checking On Suppliers

One quality control test related by Somers was to determine the relative humidity in paper. He said the test showed that the relative humidity in paper furnished by one supplier was way low, causing troubles in the pressroom. When they were able to show the supplier the results of their tests he corrected the relative humidity deficiency. The test also served to inform the suppliers that they were continually checking on his products which, in turn, made them more careful in the manufacturing process.

Another trouble which occurred in the Western plant was inaccurate ream counts. In a ream accuracy check on two suppliers, they found that one supplier averaged 499 sheets per ream while the other averaged out at 500. However, the test also showed that some reams were below 500 while others were in excess of that amount which accounted for the average among a number of reams and for the inaccuracies in filling orders of specified amounts. This condition was likewise corrected by informing the supplier.

Reduces Inspection Costs

At this point, Colonel Magee remarked that the advantage in quality control was that it reduced inspection costs as well as resulting in improved work. He said that some plants have reduced inspection costs from 50 to 30 per cent by installing quality control methods. One of the objectives of quality control is to try to eliminate final inspection, for instance, of presswork.

The benefits from quality control were related by the next speaker, Richard Shartle of the Standard Register Co., Dayton, O. He enumerated the advantages as follows: Improved quality, less time spent on checking operations, provides a picture of what's going on in plant, tells what's causing the variation in work, makes employees conscious of their work and improves morale, and corrects the errors made in one department that previously bothered other departments.

Shartle said that basically, people want to do a good job. If you can tell the worker what a good job is, he'll try to meet that standard or even do better. He advised first to determine what quality level is acceptable and then decide what level is unacceptable in different kinds of work.

Please take a look at your address on the wrapper in which *Printing Equipment Engineer* is sent to you at your place of employment. If it isn't correct, please tell us about it on a postcard.

Advertise Printing

CREATIVE selling, the kind which creates new markets and new uses for printing, was the broad theme of the session devoted to sales at the St. Louis Convention of Printing Industry of America, Inc. Presiding over this meeting was William H. Walling of Rogers-Kellogg-Stillson, Inc., New York.

The principal address was delivered by Richard Messner, Vice Pres. in Charge of Sales, E. E. Brogle & Co., New York. Included in Messner's talk were the results of a survey of various methods used by printers and lithographers to increase the volume of sales. In listing a number of ways to be creative, he said: "Your first creative selling job should be on yourself. You must tell yourself, I can be creative by selling the result factor of printing rather than its cost, so that proposed printing is adequate rather than cheap—an investment, not an expense."

Scarey Masterpieces

Also on the program, was a panel of five members who discussed creative selling from the viewpoint of the specialty or special market each participant's company was connected with. Martin J. Struhar, President, Printing Services, Inc., Detroit, Mich., spoke on *Form Printing* and remarked, ". . . some intricate masterpieces we create would probably scare the hell out of you men who think you are printers."

William C. Jensen, Executive Vice Pres., Jensen Printing Co., Minneapolis, Minn., in telling of *Creative Advertising Printing*, observed that there is a vast market for color printing by application of economical methods in its production.

Other members of the panel and their subjects were: William Paul, Vice Pres. in Charge of Sales, Warner & Simpson Co., Columbus, O., *Account Development*; C. Kenneth Coty, General Sales Mgr., Eureka Specialty Printing Co., Scranton, Pa., *Premium, Coupon Printing*; and Horace Hart, President, Leo Hart Co., Rochester, N. Y., *Games Specialty*.

Advertising is Important Says Clawson

The importance of advertising in selling printing was related by the next speaker, William T. Clawson, Advertising Mgr. of Miller Printing Machinery Co. Clawson's observations were based on an analysis of the 430 entries in the Printer's and Lithographer's Self-Advertising Exhibition sponsored by Printing Industry of America and Miller Printing Machinery Co.

Reiterating that good advertising pays, he noted that few printers rarely utilize this form of selling. He advocated that

(*Continued on Page 70*)

Winners of the $1000 awards and Benjamin Franklin statuettes in the first annual Printing Industry of America Printers' and Lithographers' Self Advertising Exhibition. Co-sponsor and donor of prizes was Miller Printing Machinery Co. Presentations were made by Richard B. Tullis (top left behind the microphone), President of Miller, at annual PIA banquet.

Front row, left to right: James G. Nichols, President, Fine Arts Litho Co., Dallas, Tex., (second prize, campaigns, small plant group); George D. Beck, President, Beck Engraving Co., Inc., Philadelphia (first prize, individual specimen, large plant group); Norman B. Jacobson, President, Huron Press, Inc., Chicago (second prize, campaigns, medium size plant group); John J. Maher, President, John Maher Printing Co., Chicago (second prize, campaign, large plant group); Robert Nichol, Art Director, Walker Press, Ltd., Paris, Ontario, Can. (first prize, individual specimen, medium size plant group); Frederic M. Pannebaker, President, Frederic M. Pannebaker, Lithographer, Denver (first prize, individual specimen, small plant group).

Second row, left to right: Herbert L. Borden, Vice Pres., and Maurice Blacker, President, Hub Offset Co., Boston (first prize, campaign, small plant group); Vernon K. Evans, President, The Veritone Co., Chicago (first prize, campaign, medium size plant group); Raymond Blattenberger, Senior Vice Pres., Edward Stern & Co., Philadelphia (first prize, campaign, large plant group); L. W. Brockbank, General Mgr., Walker Press Ltd. (same company as Mr. Nichol in front row.)

ITCA members take look at phototypesetting, transparent proofing, commercial Teletypesetter operation and other methods in order to meet changing conditions.

ALMOST 300 members and guests and their ladies attended the October 8 to 11th convention of the Intl. Typographic Composition Assoc., at Hotel Statler, St. Louis, Mo. Keynote of the meeting was that every member operating a typographic composition plant realize the importance of producing quality work. This is related to casting type and slug composition with as perfect printing face as possible. Stressed, too, is the necessity for making reproduction proofs and transparencies of such high quality that the platemaker will be spared the necessity of doctoring proofs or negatives.

During convention days, ITCA members took a look at Fotosetter operation as practiced in the plant of Warwick Typographers where three Fotosetters are in operation together with complementary photographic development equipment. Warwick operates three Fotosetters. In another visit, the members visited the Superior Typesetting Co., primarily to see how that firm produces type transparencies for platemaking purposes. They also had a look-see at Teletypesetter-operated Linotypes in the Superior plant.

Previous to attending the St. Louis convention it seemed that a number of the member trade compositors were in a quandary as to whether phototypesetting is rapidly replacing hot-metal composition. In answer, these men were assured that as in the case of cold typesetting, the phototypesetting method would not replace hot-metal composition for the reason that the typesetting field is and always has been expandable. In this instance, the market for type composition services will continue to expand. The primary market for phototypesetting, strikingly, is in a field where standard typesetting services ordinarily are not available.

Officers Re-elected

During the closing session of the convention, it was felt by the members the previous officers had done such a good job that they should be rewarded with a second term. Principal officers are: President, John R. Connell, Kansas City, Mo.; First Vice Pres., Harold L. McGirr, New York, N. Y.; Second Vice Pres., Walter R. Adamson, Toronto (Ont.), Can.; Treasurer, John W. Shields, Bridgeport, Conn. Frank M. Sherman continues as Secretary and Executive Director.

Fotosetter Operation

Hubert J. Echele, President of Warwick Typographers, whose firm pioneered phototypesetting in the St. Louis area, discussed *How We Use the Fotosetter in Our Plant*. To illustrate his address, Mr. Echele displayed a considerable number of examples of Fotosetter composition mounted on Cellophane covered card easels. He answered a number of questions from the floor. He concluded with the advice that immediately following Fotosetter installation "There is a long, tedious job training period ahead . . . if you are thinking of going into the phototypesetting field you can make up your mind you will lose some sleep in getting started." Work executed ranges from 5 pt. to 288 pt.

Discusses Worker's Thinking

MERLYN S. PITZELE, Labor Editor of *Business Week*, addressed the convention on *Human Relations* and *Labor Relations*. His address dealt mostly with labor relations in companies employing many people, both in the industrial and merchandising fields. In the automobile industry the worker at the assembly line cannot deviate from the fabricating process on that line. Consequently, he must find some other outlet for his feelings when matters don't go right at his home. He is inarticulate. The employer, however, under similar circumstances, can "take it out on his secretary" or kick the wastebasket. He painted a word picture of early industry which consisted of small units. At that time, the employer and employee were close to each other and it didn't take long for an employee to have his problems settled for the simple reason that he could go direct to the employer.

A couple of thoughts are well worth passing along in this brief mention of Pitzele's keen address.

Mr. Pitzele explained that Walter Reuther is a symbol of the workers' inexpressibility. It is through him that they speak to the employer.

A union will be more or less militant or active according to the manner in which it reflects the mental attitudes of the workers belonging to the union.

Transparent Proofing Clinic

One of the three concurrent clinics was presided over by Past-President Sol Cantor, New York, who is President of The Composing Room, a typographic composition plant. A number of questions related to the particular operation of taking transparent proofs were asked and answered.

One compositor s problem was related to securing reproduction proofs as well as regular proofs on a 4T Vandercook proof press. The difficulty is with the reproduction proofs. He was advised to secure an extra cradle with soft rollers for regular work because the rollers used for taking reproduction proofs are too hard.

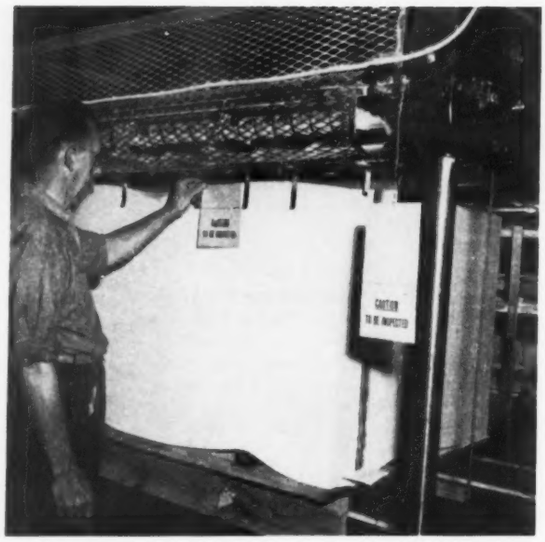
One member stated he is using 3M Spherekote top sheet on the impression cylinder of his proof press. Every 50 hours or so of use, the blanket is tightened if necessary. He explained that within reasonable limitations the springback of the blanket is excellent when accidentally dented. He warned, however, that gasoline or ordinary type wash should not be used to clean the blanket. He said special instructions regarding a cleaning fluid are issued by the manufacturer.

Must Overhaul Thinking

During an interlude, Moderator Cantor discussed reproduction proofing techniques especially with reference to the 4T proof press. He said there is very little

Promoting Supervisors

DURING a panel discussion at the recent Printing Industry of America convention held in St. Louis, one PIA executive asked whether it was common practice to go to a source outside of the plant when seeking a supervisory employee rather than promote from within the organization. It was the consensus of opinion that the best procedure is for the company to pursue the policy of promotion from within the plant. However, it was pointed out that this decision depends on whether the employee being considered for promotion will make a good supervisor or not. By and large, however, it was agreed that whenever possible, promotions should be made within the plant. One member of the audience related that unless a man is of supervisory caliber, his promotion is detrimental to himself as well as to the company.



Designating Printed Sheets for Inspection—A means of designating the sheets of a printed job for inspection because of some defect in the printing is in use in the pressrooms of the Woodward & Tiernan Printing Co., St. Louis. It entails the use of a pre-printed slip suspended in padded form on a wire hook at the delivery end of all presses. Should something occur to the press, plate, form or color, which affects the quality of the printed sheets, one of the slips is hurriedly torn from the pad and inserted at the point in the delivered lift where the trouble showed up. The slips, which measure 6 in. by 12 in., are of gray stock for contrast against the white sides of a large lift of printed sheets. Printed in 60 pt. bold face type at one end of the slip are the words "Caution—To Be Inspected." I. Halbach, Pressman on the firm's Harris four-color offset press, is shown here demonstrating insertion of the inspection slip in the delivery pile. The inserted slip in a printed lift serves as a warning to the bindery that there is a defect in the printing on the sheets from the point of insertion of the slip to the top sheet of the lift. Should the trouble be corrected at some point during the running of that same lift, another slip is inserted which is a means of telling the bindery that the sheets between the two slips are to be inspected for defects.

one can do by way of makeready when taking reproduction proofs. Type should be uniformly high within at least 0.001 in. plus or minus in relation to type high. There should be no pitting, holes or broken lines in the type faces. For those who contemplate going into the transparent proofing field it will be necessary to overhaul their thinking mentally. A great deal more care must be exercised than for black and white proofing.

It was the consensus of opinion that attempts to proof metal-to-metal in the case of certain types of offset plates will not be successful—its too hard on the type. Another difficulty, explained one executive who has studied the subject, is to get the ink to dry on the metal surface.

There was some speculation regarding doping the form for photographic purposes. This had reference to sprinkling lampblack on the form's non-printing areas and rolling white ink on the type, or conversely, black ink on chalked background, as a substitute for reproduction proofs. A number of participants said the idea was tried long ago and was not practical.

Claire Mahoney of Kalamazoo, Mich., thinks the next major step in improving the method of taking reproduction proofs and/or transparencies will be a better impression cylinder blanket. He explained that under a glass a rubber blanket appears to be covered with miniature mountains with craters "just like on the moon." He wants a blanket that is smooth and will receive as well as give off ink equally well.

Improved Blanket in Offing

Fred Duensing of Vandercook & Sons, Inc., was asked to make some comment on the blanket situation. Duensing reported that Vandercook has been working with Goodyear on a new type of blanket. The new blanket, however, is not yet available. The durometer reading is somewhat higher than for rubber. Upon examination under a glass it appears there is a slight amount of grain in the surface.

Duensing also commented upon a possible new service for typographic compositors. He said the field is wide open to them for taking transparency proofs of original four color process photoengravings in register. The photoengraver then prints down on copper through the proofs for producing as many duplicate sets of color engravings as may be required.

A number of the typographic compositors in the audience thought it would be a boon to the industry if a press similar to the 4T Vandercook with an adjustable bed could be supplied to the industry. The Vandercook adjustable bed press was originally designed for proving varying plate thicknesses by electrotypers. During the discussion it was explained that on this press, there is a micrometer bed adjustment which permits proofing the type form on the impression cylinder blanket with ink. Before the Cellophane or acetate sheet is printed, the bed is lowered the exact thickness of the transparent sheet upon which the proof is to be taken. The sheet can be 0.002 in., 0.003 in., or 0.005 in. etc. Lowering the bed to compensate for the stock thickness provides true rolling contact between type and the Cellophane sheet on the cylinder.

E. S. Peterson, of E. S. Peterson Co., Denver, Colo., suggested that typographic compositors could add a profitable side line to their business by making rubber printing plates. He said that in his plant two-side acetate proofs are taken from rubber plates. He observed, however, that in all cases the rubber plates are made in his plant where his employees can exercise precision control over the making of the plates. A kiss impression only is required. He said around 0.002 in. extra impression is allowable before the face will distort. During the discussion it was brought out that unusual uses for acetate proofs are demanded by department stores, moving picture slides, map making, instrument dials and for reference figures and arrows on machine parts photographs.

It was stressed that in transparent proofing technique rigid requirements are that the type faces be clean and that the proof press must be checked at periodic intervals for accuracy as well as for roller and cylinder packing replacement.

Composite Statement

Mr. ITCA (Executive Director Frank Sherman himself) discussed the composite statement which had been prepared from the annual statements sent in by member plants. He explained this service to the typesetting industry and urged more members to take advantage of the service which will enable the industry to know about the average efficiency of its operations. (See October issue PEE for summary of Composite Statement). Herbert K. Maguire, Executive Secretary, Chicago Typographers Assoc., presented an analysis of the Composite Statement. It was his opinion that very few industries of any kind have this sort of information available.

During the convention, 19 of the younger ITCA executives met and elected Earl Hoffman of Superior Typesetting Co. as chairman. These younger executives will meet and report about their activities to the parent body.

Alfred Hoflund, Denver, Colo., Typographer, presented an address illustrated with many slides upon "*The Fundamentals of Typographic Design*. It was stressed by the speaker that design is as important as sales or financing—it belongs to management.

Investigational Work by ITCA

Bernard Snyder, Chairman of the Composition Committee of the Research and Engineering Council, presented a report to the ITCA meeting. He explained how the research and survey work of the ITCA has been coordinated with the activities of the R&E Council. The Council was established as a coordinating agency on a nation-wide basis to assist existing research and investigational groups in the Graphic Arts industry—not to duplicate or compete with them. He spoke proudly of the fact that when the R&E Council organized its Composition Research Committee it first drew upon the active members and committees of the ITCA.

He related that two of the major composing machine manufacturers have already lent an attentive ear in private conference to several suggested improvements as presented by the Council's Composition Research Committee.

Human Relations

Speaker discusses necessity for management recognizing that a foreman gets results through people with the encouragement of management.

By William F. Gutwein*

**Director of Employee and Public Relations, C. T. Dearing Printing Co., Louisville, Ky. Chairman, Intl. Supervisory Training Committee, Intl. Assoc. Printing House Craftsmen. Abstracted from address delivered before Craftsmen's St. Louis, Mo., convention, August 1952.*

As management executives, we have placed emphasis on production control methods, quality controls, cost controls, and many other controls, but have deferred our obligations, as management people, to learn how to control peoples' attitudes and performance. This is a gross devaluation of the importance of men in the management scheme, for it should be obvious that with all the controls we have developed and applied, their success depends upon the people involved, or affected by their use.

Get People To Do Things

In short, what good are plans or procedures, if people are unwilling to follow our leadership, or our instructions?

Regardless of our status or responsibility as management men in our industry, we all have a job to do. As I meet and talk to people over the country, they ask "What is your job at Dearing? What does an employee relations man actually do?". My job is no different than any executive or supervisor's job who deals with, and through people, to accomplish work. The definition of a management man, in my opinion, is something like this: "It is our job to get people to do what needs to be done; but to get them to do it in a manner, or through an approach, that is as near to the way they will like it, as possible."

People Must Be Willing

To say the same thing more briefly, we can say:

"We must get people to do
What has to be done;
The way it has to be done;
When it has to be done;
And have them do it willingly."

The willingness of people to do and think as we wish, therefore, becomes our boiled down definition of human relations. I like the expression "It pays to get along with people", for it means just what it says.

Modern human relations-minded management men, who recognize the importance of what people think and feel, along with their knowledge and skill, are able to direct both into a combination of initiative and performance that guarantees the best results with the least friction.

How People are Handled

Such men are able to make their job easier and more effective, by handling people in a way that helps reduce waste and idle time; reduce excessive demands and costs, eliminate grievances, improve the quality and quantity of the work; and above all, generate a greater appreciation on the part of employees of management's problems and objectives.

I want to now make some observations about top management in the printing industry, which I believe will establish clearly, the need for management in our plants to better understand and use techniques in human relations, which other industries have found effective, and have been using for a long time.

Small Plant is Ideal Setup

The ideal set-up for good employee-management relations is the small printing plant, where the owner or manager is in direct personal contact with every person and every operation, and problem. It is when a business grows and becomes successful that it becomes more complex to operate and control. Contacts are less frequent and communication and control breaks down. Top management has only one alternative, under such a maize of responsibility, and that is to delegate some of that personal responsibility to other people called foremen or supervisors. Top management hopes and trusts these appointees will think what they want them to think, hear and see what they want them to, and also do and say what they would like for them to do, if they could possibly do so personally, themselves. When a manager or owner of a small plant gets the job, produces it, sells and gets paid for it, he has no problem of knowing what is going on in the plant, or what to do, for he is the "whole works"; and he doesn't have to wait for a report or someone to tell him when, and why, he should make plans or decisions.

Delegating Supervision

When he has to depend on supervision to maintain personal contact; and to make plans or decisions on basis of fact; time, accuracy, and personalities become a factor, his success is only as good as the relations between his supervisors and himself, and between the supervisors and his people.

This is nothing new. We all know this; yet we do very little to strengthen supervision, comparatively, in our industry, to be good representatives of management in every respect by helping them to do personally for us what we would like to do ourselves if it were physically possible to do so. The tradition of our industry has contributed much to the unpreparedness of our management to accept or fulfill all the responsibilities that are abruptly thrust upon them.

If I were to take the time to ask each of you how you happened to be a foreman, I'll wager your story would go something like this: You started in the Printing game some time ago, when you were a kid perhaps, and learned all the tricks of the trade the hard way. You kept up with things as they changed and no doubt did what your boss told you to do.

George Is Promoted

You were a pretty good craftsman; the boss liked your work, your attitude and habits. He thought you might be a pretty good example for the other boys to follow—maybe you could help him to look out after them and their work.

So he calls you in some Friday afternoon and he says, "George, I've been watching you for some time; things have been getting pretty tough for me, lately; I'm going to make you a foreman starting next Monday morning. You know what I want out of you. Keep your nose clean and let's see if you can live up to my faith in you."

What People Think of Foreman's Functions

Monday morning comes. In the meantime, you have been reviewing this whole thing over in your mind. You wonder whether you are ready—if you will make any mistakes. You dig in with all your heart and soul. In a little while you find out the boss wants to know about this fellow, or that machine or a particular

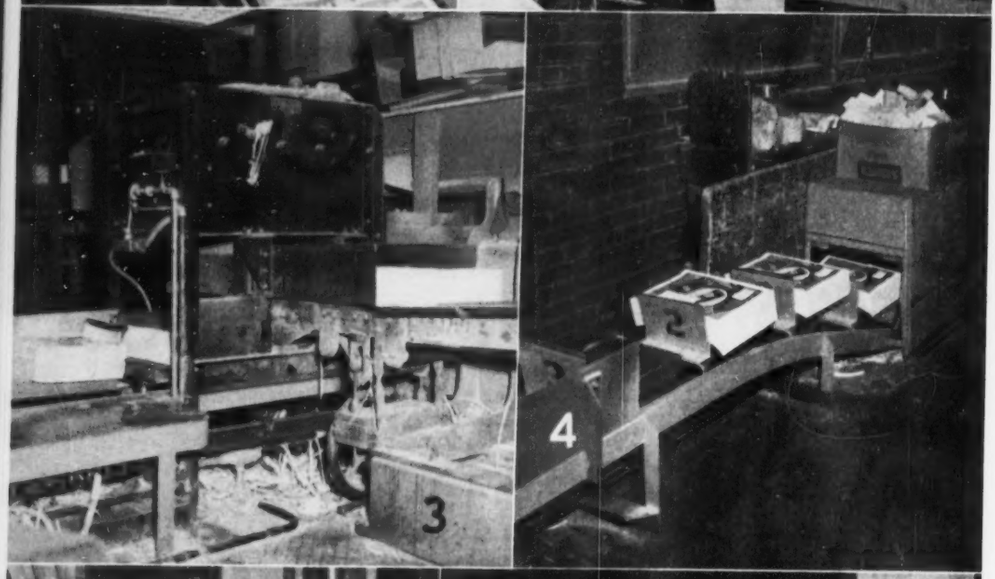
(*Continued on Page 72*)

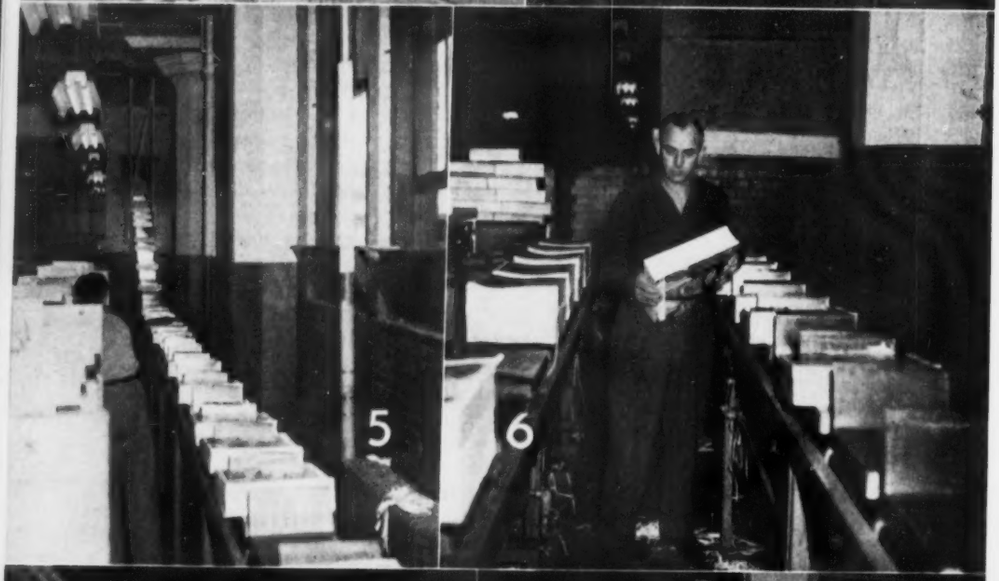
Great Lakes Conference

PRESIDENT Harry A. Miller of the Great Lakes Newspaper Mechanical Conference has announced that plans for the January conference are being organized rapidly. The conference will be held at the Dreshler-Wallick hotel, Columbus, O., on January 11 to 13 inclusive. Program Chairman Deo A. Padgett and Local Chairman Fred Plimell as well as the entire Conference Board of Directors, have been working with President Miller to provide a helpful series of discussion periods during the conference. Major topics to be considered are: Deadlines in composing room, high shrinkage mats and r.o.p. newspaper color. There will be a Non-metropolitan session and a Machinists' meeting.

Newspaper executives wanting certain topics discussed should get in touch with Program Chairman Deo A. Padgett, Composing Room Supt., Cleveland (O.) *Plain Dealer*.

Equipment and supplies exhibits are being arranged through *Printing Equipment Engineer*, 1276 W. Third St., Cleveland 13, O.





Conveyors

of several kinds eliminate manual lifting and slow transport drudgery at Crowell-Collier Publishing Co.

By J. L. CONSELYEA*

**Methods and Standards, Crowell-Collier Publishing Co., Springfield (O.) Plant.*

TYPICAL of many industries, and the particularly publishing industry, was the status of the mailing and shipping operations at Crowell-Collier five years ago. The only modern device in operation was the Cheshire Mailing Machine. Every magazine was laboriously lifted, carried, turned, counted, and stacked innumerable times between the binding and final shipping operations.

With our new conveyors and auxiliary equipment it is now possible to have a completely wrapped, labeled and checked newsdealer's bundle loaded into a road truck or railroad freight car with a total of five lifts and a total manual transport of only 132 in. These lifts include all the manual operations of binding, trimming, counting, wrapping and loading. The processing of subscription copies is a little more efficient with the same number of lifts but a transport distance of 102 in.

Twenty minutes from the time a signature is loaded in the hopper of an automatic binder or inserting machine, that signature may be in a magazine and out of our plant and on its way to a reader. This is possible through a combination of bucket, carrousel pallet, Cutler-Hammer newspaper, gravity roller and chute, belt and skate wheel conveyors and ball transfers. Also included are special devices such as a mechanical transfer from a belt conveyor travelling at 200 ft. per min. to a carrousel pallet conveyor travelling at 60 ft. per min. at right angles to the belt. The pallet conveyor incorporates the escalator principle in a section that conveys 3½ ft. stacks of magazines on each pallet from the second floor of one building to the first floor of an adjoining building, a descent of 14 ft.

Operating in conjunction with the Cutler-Hammer conveyors are counting-stacking devices that deliver counted and stacked saddle-stitched *Collier's* within the reach of feeders at the three-knife straight-line trimmers. The last previous manual operation is the loading of signatures into the hoppers of the inserters.

Over these conveyors and through the devices pass a million magazines a day. Close coordination between binding and shipping requirements has been developed. The result is the almost complete disappearance of a magazine inventory, either trimmed or untrimmed. Because of the elimination of manual handling, direct labor requirements are drastically reduced. All of the back-breaking labor jobs are gone.

With a combination of belt conveyor, microswitch, foot switch, and ball transfers the "direct" bundles at our Cheshire machines are completely wrapped and deposited into mail sacks with one pull, one twist and one push.

Crowell-Collier Employs Variety of Conveyors

All in One System to Get Signatures from Binder or Inserting Machines into a Magazine and Out of Its Plant in 20 min.—How this is done is shown in the accompanying pictures.

1.—Gathered, bound, and covered magazines are transferred from the delivery belts coming from the binding machines to buckets of the overhead conveyors.

2.—Magazines are transferred from the buckets of the overhead conveyors to the troughs of the chain fed continuous trimmers.

3.—Trimmed magazines are carried by belt from the trimmers into the mechanical transfers which deposit the magazines on the pallets of the carrousel pallet conveyor.

4.—The carrousel pallet conveyor transports the trimmed magazines from the trimmers through the floor to the Shipping and Mailing Department.

5.—The carrousel pallet conveyor enters the Shipping and Mailing Department descending escalatorwise from the floor above.

6.—The magazines are transferred from the carrousel pallet conveyor to the newsdealer wrapping unit carrousel conveyor and piled into bundle size stacks.

7.—Wrapping unit carrousel conveyor carries bundle size stacks to within reach of bundle wrappers. The bundle wrapper removes stack from pallet, places on sheet of wrapping paper, folds around magazines, and wire ties.

8.—The bundle wrapper disposes of completed bundle by pushing it down the skate wheel section to belt conveyor.

9.—The belt conveyor carries the bundles to checker's station where the bundles are labeled, marked, and counted on a gravity roller section.

10.—The labeled, marked, and counted bundles slide around the gravity roller section and are deposited on an inclined belt conveyor which transports the bundles to the freight car or truck that will haul them to their destination.

11.—The carrousel pallet conveyor continues its path beyond the newsdealer wrapping unit, and services the subscription copies addressing units. The magazines are transferred from the conveyor to the hoppers of the addressing machines.

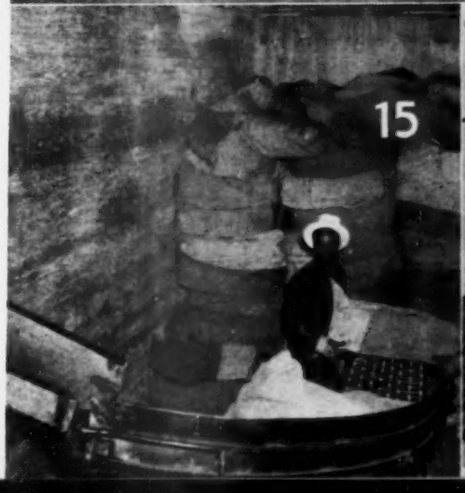
12.—The magazines with the address label applied are wrapped and tied and deposited in mail sacks.

13.—The mail sacks are tagged for a particular post office, closed, locked, and dropped through the floor onto a belt conveyor.

14.—The belt conveyor returns on an incline up through the floor, and carries the mail sacks overhead to the truck or freight car that will carry them to their destination.

15.—The overhead belt conveyors deposit the mail sacks and bundles on to chutes which carry them to the interior of the truck or car where they are properly loaded to travel in good condition.

16.—This picture is supplemental to those showing individual operations and the methods of transportation. This is a general view of the wrapping and shipping department for *Women's Home Companion* and *American Magazine*. Many thousand magazines daily pass through this department.



Monophoto Phototypesetting Machine

THE Monophoto Phototypesetting Machine, it has been announced, will be handled in the Western hemisphere by Lanston Monotype Machine Co. The original equipment was developed by The Monotype Corp., Ltd., Redhill, England. Direct product of the machine is a negative or positive film or paper bearing the type composition. The composed film may be used in producing proofs for reading purposes, for pasting up layouts for printing plate reproduction, or for printing down directly upon the letterpress or offset plate or gravure cylinder.

In the Monophoto system, existing standard keyboards already in operation may be employed for producing the perforated paper ribbon in the usual way.

The mechanism familiar to the hot-metal caster operator is retained in the composition exposure unit but differs in the redesign so that the hot-metal casting components such as the metal melting pot, the pump and the mold are replaced with a photographic unit. This unit consists essentially of a light projection system, the photomatrix case, shutters, the optical unit containing a lens and prisms, and the film holder with its operating mechanism.

The die or matrix case functions in the same manner as the one used in the hot-metal machine. It is approximately of the same size and shape as the now standard 1517 hot metal die case. The individual character matrices are replaced by a master negative plate bearing all of the type characters for a particular layout. This master photomatrix plate consists of transparent characters on an opaque background, accurately positioned and arranged so that the perforated keyboard ribbon will successively position each character in location for photographic operation in exactly the same manner as employed in casting type.

In the optical system are two shutters. One of these is the line return shutter which opens at the commencement of each line of composition and closes at its completion to permit the film and optical system to be advanced for exposure of the next line. The other is a type character shutter which operates at a constant speed with each revolution of the machine as each type character is exposed on the film.

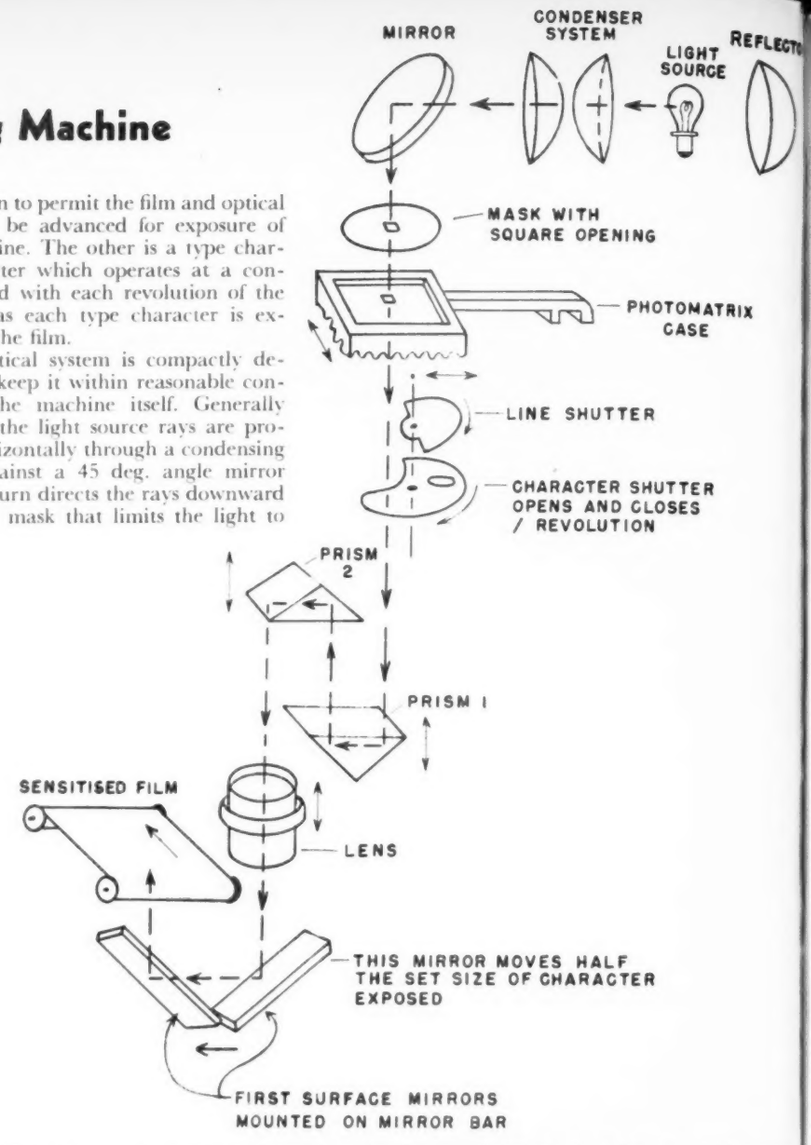
The optical system is compactly designed to keep it within reasonable confines of the machine itself. Generally speaking, the light source rays are projected horizontally through a condensing system against a 45 deg. angle mirror which in turn directs the rays downward through a mask that limits the light to the individual character square, then through the matrix case to the optical system. The optical system consists of a lens and two prisms that can be positioned relative to each other so as to provide point size composition changes within itself (from 4½ pt. to 24 pt.) without disturbing the position of the photomatrix case or negative planes. The image projected from the optical system is then directed against a pair of 45 deg. first surface mirrors which are movable setwise in proportion to the set size of each individual character photographed so that the successive characters will scan and compose each line of composition. The function of the mirrors is to provide a constant distance optical path that is necessary to retain critically sharp focus while moving the optical components, thus permitting accuracy at high composition speeds. The projected character image from these mirrors is directed vertically against the sensitized film.

During composition of a line of type the film remains stationary. Movement of the film occurs when it is being advanced vertically for exposure of the next line of composition.

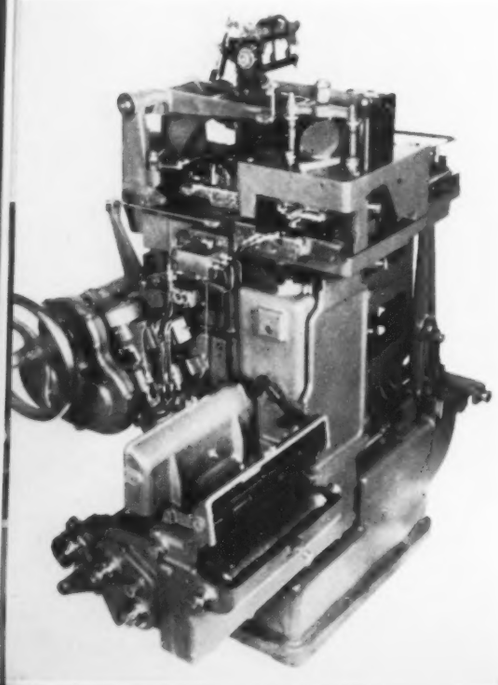
In other words, the optical system traverses the film in increments according to the set-width of the letter characters across the length of the measure or line width for which the composition is being done. After the completion of exposure of each line the optical system returns to normal or line-commencement position.

All of these motions occur with mechanical rapidity. An excess of 200 type characters per minute may be exposed irrespective of the point size of the composition.

A range of composition sizes from 4½ pt. to 24 pt. from one master negative may be secured in any line width up to 60 pica ems. In practice, however, several photomatrix negatives for every layout are available, each to cover a specific range of point size composition.



This diagram has not been drawn to scale. It is merely illustrative of the general arrangement of the component parts of the Monophoto phototypesetting machine recently announced by Lanston Monotype Co. In this mechanism, the photomatrix case is substituted for the 1517 die case in the hot-metal Monotype composition caster machine.



View of Monophoto Phototypesetting Composition Film Reproducing Machine. Corresponds to type caster in hot metal Monotype.

Any desired leading may be obtained between lines or the composition may be solid.

Any commercially available process or photomechanical film or paper may be used on the Monophoto machine. The precise optics in combination with such films provides photocomposition with extremely high resolution and contrast, it is claimed, avoids halation and faithfully retains all of the fine character details such as hairline strokes, crotches and serifs.

The film can be of any standard sheet size or cut to width from the roll up to a maximum of 11 in. in width (for 60-pica em composition) and in any galley length limited only by the convenience in handling the film in development.

The films are mounted on spools in the dark room. At the time of mounting they are labeled with the job name or number. The operator selects the spool for the job at hand, places it in the film magazine and winds it until the number "0" appears under the little red window, in the same way that the amateur photographer winds film in his camera, at which time photocomposition may commence. On completion of the galley length or the keyboard composition on the paper ribbon, the Monophoto operator winds up the tail end of the spool wrapped and returns the film to the photographic operator for processing.

It has been announced that a number of type faces have already been converted for Monophoto use from the Monotype library and will be increased to include all popular type faces.

Additional information is available by mentioning PEE No. 463 in your request.

Printing on Polyethylene Film

*Reprinted from CHEMICAL WEEK

DEVISING techniques for printing on polyethylene has been a tough problem in the expanding use of polyethylene packaging. At least four methods are in use now, with widely varied approaches to the puzzle of how to make inks stick to the film. With close to 70 per cent of the 120 million lbs. of polyethylene produced yearly ending up in packaging, printing on the material has become a big business.

Old Johannes Gutenberg might have thought he had problems, but they were nothing, modern printers groan, compared to the difficulties involved in printing on polyethylene films. The very advantages of this lightweight, chemically inert, tough film have proved to be trials for pressmen.

But at least four methods have been devised to decorate polyethylene films, boosting the attractiveness of a product for which demand already outstrips production. And these processes show widely differing angles of approach to an exceedingly difficult problem.

The Rub, the Remedies

Basically, it is the chemical inertness of polyethylene that gives the trouble. Ordinary inks, designed for paper or cellophane, can't seem to take a bite in polyethylene, won't stay on the film. Further, the flexibility of the plastic means a flexible ink is required; the stretchability of the films calls for an elastic, firm-gripping ink. Add to that complications like the mechanical difficulties in running a soft, stretchy material through a press, drying ink on a film that is quite temperature-sensitive, and you see the problems the polyethylene film printer faces.

To overcome these hurdles, one company has tried coating the film, another pre-print treating the film to alter it chemically, another using a physical process to make the ink grip, still another what it terms "electronic rearrangement of the molecules."

Nobody Talking

Details on the various printing methods are almost impossible to uncover. In the chemical specialties field, where process information is never handed out freely, producers are blabbermouths compared to the guardians of the secrets of polyethylene film printing.

Ink manufacturers, polyethylene makers, converters, and many printing outfits have all had a hand in the development of ways to print the films, but remain mum on details.

One of the well established processes in the field is that worked out by the Printing Ink Div., Interchemical Corporation. Called the Anilox method, it involves applying an anchoring coat to the film, and then printing on that.

General thought is that the coating compound is rubber-based dissolved in an aliphatic hydrocarbon solvent. The inks, too, are rubber-based, and firmly grip the anchoring surface. Ordinary aniline presses may be used, with synthetic buna rubber rollers used for the actual applying of the fast-drying anchor coat. Press speeds up to 200 f.p.m. of film are possible.

Hush-Hush Halogens

Another process that seems to have met with considerable success is one involving treating the film with chlorine before it is printed. One such process has been patented by Visking Corp. (Chicago), but will not reveal whether or not it is now using the patented method. Printing on chlorinated polyethylene presumably requires alcohol inks.

A kind of contrast plunge system has been worked out by the Velveray Corp. (Clifton, N. J.). With the usual coyness in such matters, Velveray is noncommittal, but consensus of others in the field is that it consists of hot rolling the film (temperature variously estimated at 165-200 deg. F.) just before the ink is applied, followed by cold rolling to set the ink into the film.

Milwaukee Way

Another leading converter and printer of polyethylene is Milprint Inc. (Milwaukee). Milprint has been employing Perma-Process pre-inking treatment lately. It uses dibutyl phthalate (for the most part) as a plasticizer to make its inks flexible, applies an overlay of varnish to protect the ink and give the film a gloss.

Loxtite-treated is what Traver Corp. (Chicago) terms the films it prints. Vaguely described as an electronic system to line the molecules up, the Loxtite method requires about half an hour to ready a roll of tubing for printing.

On other forms of polyethylene, such as sheeting and molded products, silk screening and letterpress printing have been tried with considerable success. (Gravure or aniline methods are tops in the film printing.) And though many printing firms and ink companies are working on the problems, most still admit they haven't yet developed a thoroughly satisfactory system.

Most of the leading film printers turn out work that will pass the Scotch Tape test—one puts a strip over the ink, rips it off, and prays the ink stays with the film instead of the tape. The scratch test—scraping the printed area to see if it wears off, is another test that is still used to determine durability of the work.

Demand High

The characteristics of polyethylene have built a high demand for it among packagers. At the present time, according to the U. S. Dept. of Commerce, about 70 per cent of polyethylene produced goes into packaging of one sort or another (17 per cent of that amount to the Armed Forces). But many converters complain that the price is high, although the demand still is greater than the production.

Printing costs with polyethylene film are generally somewhat higher than on other film. The actual ink cost is not always much greater, but there are somewhat higher production costs, due to the extra steps and equipment alterations required for polyethylene film printing.

One big field for growth of polyethylene film is fresh produce packaging, many converters say. Quick frozen poultry was one of the first applications, and it has shown the adaptability of polyethylene in this outlet.

Correction

There was a typographical error on page 33 of the October issue of *Printing Equipment Engineer*. The error occurred in the article, *Teletypesetter Tape Compactor*. There are 22 Compactors in use in the plants of a newspaper publishing company instead of just 2 as printed in the article. The Tape Compactor is obtainable from Compactor Mfg. Co., 1610 W. Springfield Ave., Champaign, Ill.

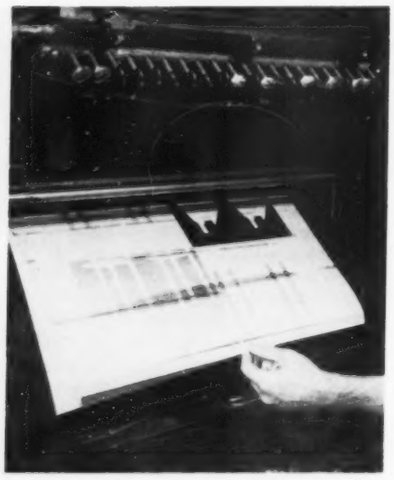
Equipment & Supplies

If you wish additional information concerning equipment, supplies and/or technical literature, please make your request to PRINTING EQUIPMENT *Engineer*, 1276 West Third St., Cleveland 13, Ohio.

Pre-Sensitized Offset Plates in Larger Sizes

EIGHT additional pre-sensitized offset plate sizes have been announced as available by Minnesota Mining & Mfg. Co. The new plate sizes include a 13 in. by 17 in. size for use on the Davidson No. 233 press; 14 in. by 20 in. for the Webendorfer (Little Chief); 17 in. by 22 in. on the Webendorfer (Chief); 17 in. by 22 in. for the Harris; 21 in. by 28 in. also on the Harris; 22 in. by 29 in. for the Webendorfer (Big Chief); 22 in. by 34 in. on the Harris; and 22 in. by 34 in. for the E.B.Co. press.

Processing the MMM plates consists of the following five steps: Exposing, Desensitizing, Coating with image developer, Washing and Gumming. Sponsor claims processing takes 5 min. before the plate is ready for the press.



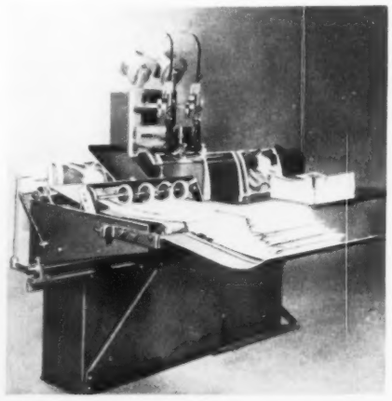
MMM Sensitized Aluminum Offset Plates, like the one shown above, are now available in eight larger sizes.

The pre-sensitized plates are made of 0.006 in. thick aluminum and are said to have zero stretch. The company states the plates will not oxidize and up to 300 line halftone screens may be used. It is further claimed the coated surface is not susceptible to scumming. They are designed for a working range of 20,000 to 45,000 impressions.

Demonstrations of processing the larger size plates are being conducted by MMM technicians in offset plants. If additional information is requested, please mention PEE No. 446 in your letter.

Continuous Belt Delivery for Auto-Stitcher

A CONTINUOUS belt delivery mechanism for the Rosback Auto-Stitcher was recently announced by F. P. Rosback Co. The accessory attachment facilitates delivery of booklets, folders, signatures and other material handled by the stitching machine.



Shown here is the continuous belt delivery mechanism installed on the Rosback Auto-Stitcher. The accessory attachment is available as optional equipment, according to F. P. Rosback Co.

According to the sponsor, the machine's production can be handled more conveniently with the belt delivery and at any speed the operator can feed the unstitched booklets, signatures, etc., onto the saddle.

The company states the continuous belt delivery can be added to slide stacker Auto-Stitchers now in use. Because of the machine work required, however, Auto-Stitchers now in the field must be returned to the factory for the installation.

The device is to be offered as optional equipment. More information is available by referring to PEE No. 458 when writing *Printing Equipment Engineer*.

Kelite Cleaner

KELITE No. 28 is announced as a non-flammable and non-toxic, liquid compound for use as a cleaning agent for rubber ink rollers on printing and lithographing presses, and for removing ink and other soils from machinery. Complete information may be obtained from Kelite Products, Inc., by addressing your request to *Printing Equipment Engineer* and mentioning PEE No. 448.

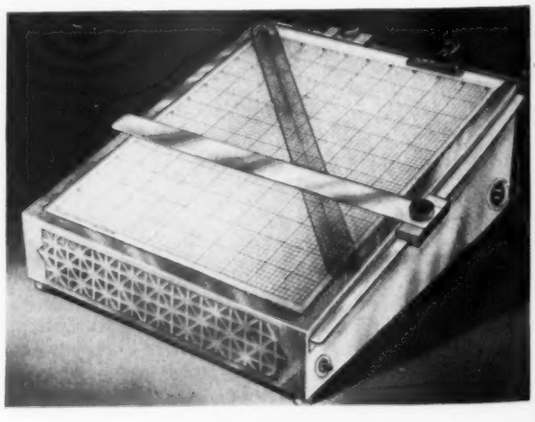
Line-up Table

LINING-UP printed sheets, re-scaling copy, type layout, measuring, strike-in, drawing and tracing are among the operations which can be performed on the Pica-Graph Line-up Table, according to Printing Equipment & Supply Co. The table is equipped with vertical and horizontal Vinylite sliding rulers which are 1 in. wide and center-lined.

Copy to be re-scaled is inserted under the 60 by 72 pica area graph, known as the Pica-Graph. Upper lefthand corners of both copy and graph must meet. The eyelet of the vertical ruler is slipped over button on the Pica-Graph and the ruler guided until its center line meets the lower right corner of the copy. The horizontal ruler can then be moved either up or down the sliding rod on the side to the desired reduction or enlargement size. Readings can be taken at the left side and top of the calibrated graph.

With the Pica-Graph removed, an illuminated 10½ in. by 13 in. opal glass working surface is provided. Three frosted tubular lamps totalling 75 w. supply the illumination. The light is diffused by a spot-blasted glass panel. Heat from the lamps is forced out through the grilled front by a motorized fan mounted on rubber base and slipped into position without bolting.

The table consumes in excess of 1 sq. ft. of table or desk space. It is constructed of heavy gauge steel. Please mention PEE No. 455 when requesting more information.



The Pica-Graph Line-up Table for re-scaling copy, type layout, measuring, tracing, and other operations. Table is equipped with illuminated working surface.

The Acra-Chec gauge for measuring the width, between beveled edges, of curved or flat stereotype or electrotype printing plates. Sponsored by the Acra-Chec Company, the gauge is shown here being used for checking register of color plates before they are placed on the press.

Flat and Curved Plate Gauge

ACRA-CHEC has developed a gauge for measuring the width, between beveled edges, of curved or flat stereotype or electrotype printing plates. The gauge may also be used for checking register of color plates before they are placed on the press.

Sponsor states the instrument enables measurement of curved stereotype plates near the head, center and tail to determine whether or not the beveled edges are parallel to each other. The accompanying illustration shows the Acra-Chec instrument in position on a plate with the fixed stop (at the left) against one beveled edge of the plate and the movable gauging piece against the right beveled edge of the plate. The gauging piece is part of a slide which is moved against the beveled edge of the plate by spring pressure. A trigger is provided for retracting the gauging piece from the beveled edge to allow removing gauge from plate.

The handle is clamped on the bar in a position to suit the width of plate being measured. Sponsor states any width plate, flat or curved, can be measured by moving the handle to suitable position on the bar and fastening it by means of screws provided.

In using the Acra-Chec, the master gauge of the instrument is placed between the beveled edges of the plate and the dial of the indicator set with zero meeting the indicator hand. When the gauge is placed in each of the three measuring locations on the plate, the dial hand indicates whether the widths between the beveled edges are the same as that of the master gauge or whether it is over or undersized. The amount is indicated as plus or minus so many thousandths of an inch.

In checking color register, a register checking attachment is used in conjunction with the Acra-Chec. The pointer of the attachment is set to a register mark on the surface of the key or black plate. The beam or support rod of the attachment is adjustable to reach any portion of the plate surface, according to the sponsor. Close adjustment for bringing the pointer to the register mark is made with a knurled nut.

When the pointer is set to the register mark of the key plate, the gauge is removed and attached to the color plate in the same manner. If this plate is correctly made, the pointer will meet the register mark as it was set on the key plate.

If there is an error in the plate, the distance from the pointer to the edge of the register mark is the amount that color will be out of register if the plate is not corrected. A dial indicator attachment is also available which indicates, in thousandths of an inch, the exact amount that each color may be out of register.

The pointer and beam arrangement is provided with a spring device which raises the pointer away from the surface of plate when it is not in use. When used it is held against the surface of plate with the fingers while adjusting the pointer. More information on the Acra-Chec may be obtained by mentioning PEE No. 460 in your request.

Old Record Storage Rack—The rack shown above for storage of old records is designed with shelves which adjust vertically on 1½ in. centers to accommodate job tickets, letters, invoices, ledger sheets, record cards and similar forms. Announced by Equipto, Div. of Aurora Equipment Co., the racks are available in 7 ft. or 10 ft. heights. Both sizes measure 3 ft. wide and 1 ft. deep. Units are equipped with front bases and finished in olive green baked-on enamel. Label holders may be used for identification of each shelf's contents. Please refer to PEE No. 454 when writing for more information.

Table Top Collator

A TABLE top collator designed to accommodate paper sizes from 3½ in. by 8 in. to 8½ in. by 14 in., has been reported by the Thomas Mechanical Collator Corp. It is available in either the 5 bin or 8 bin models. The number of sheets each compartment will hold depends upon the thickness of the stock be-

This table top collator, announced by Thomas Mechanical Collator Corp., will accommodate sheet sizes from 3½ in. by 8 in. to 8½ in. by 14 in. Five and eight bin models are available.

ing collated. The five bin model will hold a lift of paper up to 1⅝ in. high in each compartment, and the eight bin model will accommodate a lift of paper up to ⅞ in. high in each compartment.

The ejection of the sheets works on a friction feed principle. Lifts of paper to be collated are placed in the bins. As the operator pulls out on the draw bar lever located at the base of the collator, a set of fingers in each bin pushes the top sheet out from each lift. The protruding sheets are then grasped by the operator and removed from the collator.

Sponsor claims a proficient operator can gather approx. 6000 sheets an hr. with the Thomas collator. The collator is 15½ in. square. Additional details are available by mentioning PEE No. 459 in your request.

Pressure-Sensitive Adhesive Paper

A MOISTURELESS self-sticking adhesive paper, announced by Pres-Sure-Stik Corp., may be used for point of purchase advertising displays, labels, oil change tags, etc. Designated Pres-Sure-Stik, sponsor claims it will adhere instantly to metal, glass, plastic, wood, Cellophane or any smooth dry surface. The paper is also said to stick indefinitely and when removed, will not mar or affect the surface. Temperature or atmospheric changes do not affect it, according to the company. Pres-Sure-Stik is described as an all-over gummed paper coated with pressure sensitive adhesive with splits in the backing paper to facilitate removal. It is available in 28 to 30 in. widths in roll and sheet form. Please refer to PEE No. 443 when requesting further information.

The Scan-a-graver Cadet designed for weekly newspapers and commercial printing plants by Fairchild Camera and Instrument Corp. The machine will produce 85 line screen plastic halftone engravings up to 8 in. by 6 in. Operation is similar to the standard Scan-a-graver.

Smaller Electronic Engraver

THE Scan-a-graver Cadet, announced by Fairchild Camera and Instrument Corp., is designed for making up to 8 in. by 6 in. 85 line screen plastic engravings. The Cadet model differs from the standard Scan-a-graver in size and in housing design. According to Fairchild, the machine was developed for weekly newspapers and commercial printing plants.

The Cadet is a table top machine which, the sponsor claims, makes an 85 line screen 4 col. plastic halftone in 24 min. The electronic units are housed separately in electronic shields as shown in the accompanying illustration. Same-size photographs are used as copy and operation is similar to the standard Scan-a-graver.

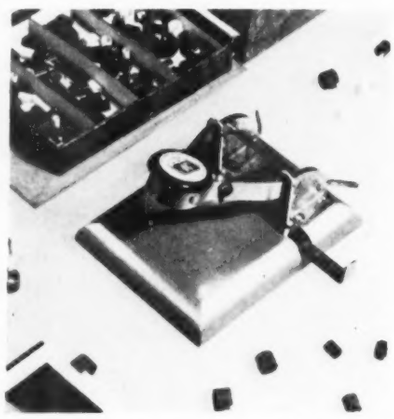
Working parts of the Cadet consist of two cylinders in line. Same-size photo copy is fitted around the photo cylinder at the right while a sheet of plastic Scan-a-plate material is placed around the left cylinder. Over the photo cylinder is a scanner containing a photo electric cell. On the carriage adjacent to the left cylinder is a motor containing a hot pyramidal stylus known as the engraving device or cutterhead. The scanning system and the cutter-head are connected by electronic amplifiers so the depth of the depressions formed in the surface of the Scan-a-plate correspond to the light and shade of the photographic print being scanned. By tying together the frequency of the oscillation, the line advance of the cutterhead carriage and the r.p.m. of the cylinders, the conventional halftone dot pattern is produced on the sheet of plastic.

More information is available by addressing your request to *Printing Equipment Engineer*. Please refer to PEE No. 457.

Small Plastic Binding Kit

THE Tauber Midget Punch Kit is designed for binding with plastic tubes small quantities of reports, albums, themes, blueprints and similar material. Announced by Tauber Plastics, Inc., the kit consists of a hand punch and 150 Tauber crack-resistant Vinyl plastic binding tubes. The tubes are in red, white, blue and crystal, and in sizes from $\frac{3}{16}$ in. to 1 in.

The all-metal punch, mounted on a grey finished wood base, weighs approx. 12 oz., and measures 6 in. by $4\frac{1}{2}$ in. by $3\frac{1}{2}$ in. It is equipped with side and rear paper margin regulators which are adjustable for different size sheets.



The Tauber Midget Punch Kit for plastic binding of reports, albums, themes, blueprints, etc.

After punching holes in the sheets to be bound with the hand punch and placing them in proper order, the Tauber Tubes are inserted in the lined-up punched holes by hand. The tubes, which lock automatically, may be unlocked with the fingers if future insertions are desired.

If further information is desired, please mention PEE No. 445 in your request.

Metallic and Color Inks

UNITED Printing Ink Laboratories, Inc., has introduced several colors of high speed metallic inks. Said to be non-tarnishing, single impression, preoxidized inks, they are available in rich gold, pale gold, rich pale gold and silver colors. The gold inks for job and high speed cylinder presses, can be supplied in varnish or powder form. The silver ink is available ready-mixed or in paste form for either offset or letterpress printing. Sponsor claims the metallic inks print effectively on all kinds of paper stock from boxboard to cellophane.

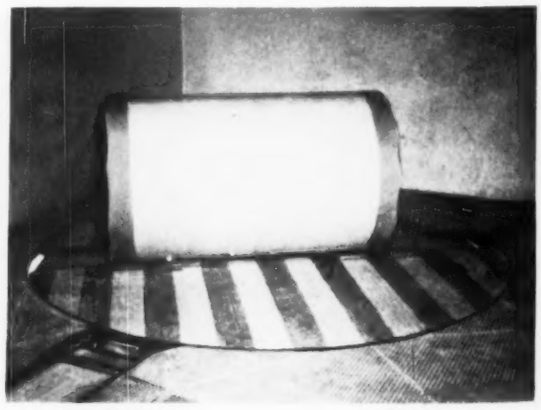
Also announced by United are 12 colors of Flexible High Speed Single Impression Inks. Included are yellow, orange, brown, green, blue, purple and black colors. These are both letterpress and offset inks. According to the sponsor, the inks will not dry on the press during a normal day's run. They may be used on all kinds of stock from cellophane to boxboard. If more information is desired, please mention PEE No. 452 in your request.

Conveyor Turntable

LAMSON Corporation has developed a turntable for turning heavy loads at right angles as they are being moved within the plant on floor conveyors. A typical application is in the movement of paper rolls as shown in the accompanying illustration.

In operation, one floor conveyor moves the load onto the turntable. When the load is centered, the turntable automatically begins to revolve to accomplish the right angle turn. Upon completion of the right angle turn, the belt conveyor of the turntable goes into operation to move the load onto the next floor belt conveyor to continue its travel. Sponsor states all movements of the turntable are automatically controlled by limit switches.

If additional information is desired, please mention PEE No. 447 in your request.



Conveyor turntable used in conjunction with a floor conveyor system for turning heavy loads at right angles, announced by Lamson Corporation. The turntable is shown here in the middle of its revolution from one floor conveyor to another.

Motor-driven Arc Lamp

AN automatic high intensity arc lamp which is claimed will provide uniform illumination on work of any size, has been announced by the Strong Electric Corp. Known as the Grafarc Challenger, it is a vertical trim lamp

The Grafarc Challenger motor-driven arc lamp, reported by Strong Electric Corp., is designed for uniform illumination on work of any size.

burning two high intensity National Photo No. 98 carbons at 75 amps and 23 v. at the arc.

The arc current controls the carbon feed so that the illumination and color temperature are constant, states sponsor. The power transformer is of the isolated secondary type for providing protection from shock to the operator.

In the Challenger model is incorporated the method of compensation for line voltage variations included in other Grafarc lamps. This system makes use of an indicating meter and a dial type tap changing switch. Design of the lamp permits mounting on the lamp support arms of any camera, according to the company. Adaptors are available to fit all makes of cameras. The Challenger can also be used as a printing lamp.

If you should desire further information, please mention PEE No. 456 in your request.

Pocket Ink Manual

A POCKET manual for pressmen consisting of 60 pages of information on ink troubles, drying time, driers and dampening control, has been prepared by Gaetjens, Berger & Wirth, Inc. The manual is made up of reprints of five articles which have appeared in several trade magazines as follows: *Ink Difficulties* by Russell J. Hogan; *Factors Affecting Ink Drying Time* by P. B. Mennell; *Driers*; *Dampening Control—Secret of Good Lithography* by Charles F. Geese; and *For Corrugated Board Printers*. Such press troubles with ink as backing away from the fountain, bleeding, caking, chalking or powdering, collecting, color lacking snap, crystallization, poor distribution, drying too fast or too slow, fading of ink, fill-in and ghosting are dealt with. In each case the identity and method of detection is given, possible reason for the trouble and possible remedy. Printed in two colors, the manual measures $3\frac{3}{8}$ in. by $6\frac{1}{4}$ in. Copies may be obtained by referring to PEE No. 429 in your request.

Micro Switch Catalog

THE Micro Switches shown in Catalog No. 82, recently issued by Micro Switch, Div. of Minneapolis-Honeywell Regulator Co., are designed primarily for the control of alternating current circuits in industrial and commercial applications. These switches are designed for the automatic operation of equipment, to act as safety features on equipment or to limit machine operation. In the 22 page catalog are included descriptions and illustrations of heavy duty limit switches, die cast assemblies, explosion and splash proof switches, general purpose basic and limit switches, auxiliary actuators for basic switches and V3 ultra small basic switch. A diagram of the construction of the switch is shown with each listing. Copies of the catalog may be obtained by mentioning PEE No. 444 in your request.

Emptying or Filling Barrel Pump

ENGINEERED Equipment Co. has developed a pump designed for emptying or filling containers. Sponsor states the pump will handle viscous or oily liquids, such as printing inks, thinners, motor oil, linseed oil, coolants, fuel oil, etc.

Handle of the pump unit is turned in one direction to drain the container, and

The pump unit shown here is designed for emptying or filling containers. Pump will handle a variety of liquids, including printing ink, according to Engineered Equipment Co.

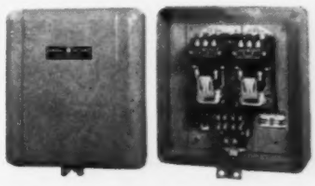
rotated in the opposite direction to fill the barrel. Spout is threaded for $\frac{3}{4}$ in. I.D. hose connection. Sponsor claims the pump will empty a 55 gal. drum in 8 to 10 min.

Combination $1\frac{1}{2}$ in. and 2 in. bung nut is furnished. Fits $\frac{3}{4}$ in. suction pipe. According to the company, the unit is self-priming, continuous flowing and non-dripping. Weight is 8 lbs. Spout can be turned up to receive solvent or detergent for back flushing when cleaning. Designated the Model 101, the pump is equipped with self-aligning bronze vanes, machined steel body and Neoprene seals.

When writing for further details, please mention PEE No. 453 in your request.

Automatic Throwover Panel

AN AUTOMATIC throwover panel, a control device that transfers electric circuits to an emergency power source when the normal source fails, has been announced by the General Electric



Co.'s Control Dept. The panel automatically transfers emergency lighting circuits, signal or communication systems, exit markers, regulating and metering equipment, fire protection apparatus, etc., to a standby power source when the regular supply is interrupted.

The G-E panel consists of mechanically interlocked normal-source and emergency-source contactors, and a pilot contactor. Besides transferring circuits from a failed normal source to an emergency source and back again upon resumption of regular service, states sponsor, these contactors also control standby power equipment, such as an auxiliary generator, turning it on and off at the appropriate times.

The panel features a G-E contactor whose air gap is claimed not to be affected by the condition of the striking surface. The air gap is a permanent and unchangeable part built into the stationary magnetic structure and, according to G-E engineers, no matter how many or how few operations the throwover control may undergo, both normal-lead and pilot contactors drop out reliably upon power failure.

An annealing of the magnet structure further reduces residual magnetism resulting in consistent drop-out voltages and transfer of the load to the emergency source.

The load contactors feature a coil that is impregnated in a solid block of solventless varnish for protection against moisture and mechanical damage.

For special applications requiring close control of transfer voltage, as on power lines of poor regulation, a voltage-sensitive relay can be provided to transfer the load at a closely controlled voltage point. Also, in applications where momentary voltage interruptions are sometimes encountered, as from lightning surges, a time-delay relay can be used to prevent the transfer until after a specified time has elapsed.

The standard line of automatic throwover panels, size 1 to 3, employ vertical-lift contactors, and sizes 4 to 6 use clapper-type contactors. More information is available by mentioning PEE No. 441 in your request.

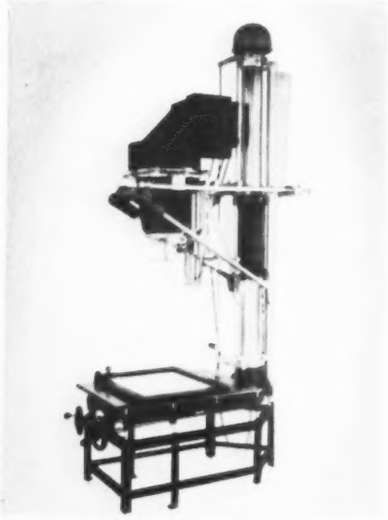
Portable pH Meter

THE Photovolt Portable pH Meter which is powered by three radio batteries, is the subject of a recently issued bulletin by Photovolt Corporation. Sponsor states the batteries will afford 2000 hrs. service. Designated the Model 125, the instrument is claimed to be accurate to 0.03 pH. The single range dial is calibrated from 0 to 14 and is readable to 0.02 pH. Sponsor states direct readings can be taken instantly with the Model 125. The temperature control feature ranges from 0 to 100 deg. C. Operating instructions are engraved on a front panel of the instrument. Millivolt scales are as follows: -400 to +400; also —800 to +800 for use with external voltage divider.

The meter is furnished with a shielded glass electrode, said to be adaptable for electrodes of any description. A stabilized power supply unit is available for alternative operation from 100-125 v., a.c. without the use of batteries. Also available is a carrying frame for holding instrument, beaker, buffer and wash bottle. Copies of the bulletin may be secured by mentioning PEE No. 450 in your request.

Autofocus Mechanism

AN autofocus mechanism on the Caesar-Saltzman line of condenser enlargers for use in color separation and black-and-white photography, has been reported by J. G. Saltzman, Inc. The weight of the camera and condenser



The Caesar-Saltzman condenser enlarger equipped with autofocus mechanism. The projectors are designed for color separation work and black-and-white photography.

lenses (60 lbs. for the 14 in. diam. condensers used on the 8 in. by 10 in. projector) is counterbalanced by concealed weights inside the 6 in. hollow steel support column.

All controls, including the focusing control for the projection lamp, are located beneath the front of the paper board. The camera, lens and lamp focusing mechanisms are coupled with Veederroot calibrated counters which permits remaking any part of a separation series at a later date.

A 4 ft. long cam is used on the enlarger which, according to the sponsor, permits correct focus at every point from 1:1 to the maximum enlargement capacity of the machine. The maximum capacity is determined by the head room available in the room for which the machine is made.

A mechanical crossover device is used for changing from autofocus to ratio focus when desired. Additional details are available by requesting PEE No. 426.

Humidification Bulletin

ABBEON Supply Co. has recently made available the 1952-53 Winter Edition of its bulletin entitled *A Few Facts About Humidification*. The four page bulletin deals with the troubles experienced with hygroscopic materials in process and with the health of employees in dry areas during the heating season. Some of the subjects included are What is Meant by Relative Humidity, What Problems are Associated with Low Humidities and How to Overcome Low Humidity. Various models of industrial and office humidifiers, and humidity indicating instruments are also described. If you desire a copy of this bulletin, please mention PEE No. 461 in your request.

Automatic Sheet Delivery Now on Proof Press

THREE models of the Presto Proof Press are available for reproduction proofing, combination proofing and pre-makeready operations, and proofing full-size newspaper pages, reports the K. J. Dollahite Co. An automatic sheet delivery, which delivers the sheet to a hopper located beneath the feed board, is optional equipment.

The cylinder is equipped with a gripper bar and lay bands which hold the sheet off the form. The cylinder clears the form on the return stroke. The self-inking system is comprised of two composition form rollers, one brass distributor roller and a vibrator drum. The form is inked twice for each proof taken. Sponsor states feed board side guide and front guides may be adjusted to hair line register. The head bar of the press is recessed to admit the string around the form.

Max. form size of the three models are as follows: Senior Model, 12½ in. by 22½ in.; Master Model, 24 in. by 28 in.; and Master Model (News Special) accommodates full-size newspaper page. A motor driven automatic inking system with ink fountain and ductor roller is optional equipment on all models.

The bed on the Master Model (News Special) can be raised or lowered ¾ in., graduated in 1/16 in.

Also announced by the Dollahite firm is the Presto Two-Way Form Lock. Adjustable in two directions, the device is locked on the bed of the proof press and pressure is applied to the tail end of form. The lock-bar is recessed to admit the string around the form. It is available to fit any size proof press. Please refer to PEE No. 431 when requesting more information on these presses or form lock.

36 in. and 48 in. Roller Cleaners

THE C. Walker Jones Co. has announced 36 in. and 48 in. models of the Jomac Roller Cleaner designed to meet the requirements of smaller offset plants for breaking in new, and cleaning used, dampeners. The 36 in. model will

The Jomac Roller Cleaner is now available in 36 in. and 48 in. models for breaking in new, and cleaning used, dampener rollers, according to the C. Walker Jones Co.

accommodate dampener rollers for 17 in. by 22 in. and smaller presses; the 48 in. size will take rollers for 22 in. by 34 in. and smaller presses.

The units are installed by plugging into a 110 v., a.c. outlet. Each unit is equipped with a drain which may be connected to a water drain where the cleaner is installed. Sponsor states both models are constructed of heavily plated, grooved rollers, with bumper plates at either end to prevent wear upon the end walls of the washing tank. A set of three dampeners can be accommodated for the cleaning or breaking-in operation.

The Jones firm also reports that its Seamol seamless covering for dampener rollers is now available in a heavier weight. Sponsor claims the improved covering provides greater water retention capacity and moisture control. When requesting more details, please mention PEE No. 451 in your request.

Reliance Bulletin

RELIANCE motors, adjustable speed drives, electronic controls and regulators are the subject of a two-color, four page bulletin issued by Reliance Electric & Engineering Co. Included are descriptions of Reliance a.c. motors from ¾ to 300 h.p.; heavy duty Type T d.c. motors from ¾ to 1000 h.p.; all-electric Reliance adjustable speed drive for a.c. circuits from ¾ to 300 h.p.; electronic controls and regulators for this motor drive system; and Reliance motor-generator sets, generators and rotating-type regulators. The functions of each product are listed along with the service applications for which they are designed. Representative units are illustrated. Copies are available by mentioning PEE No. 449 in your request.

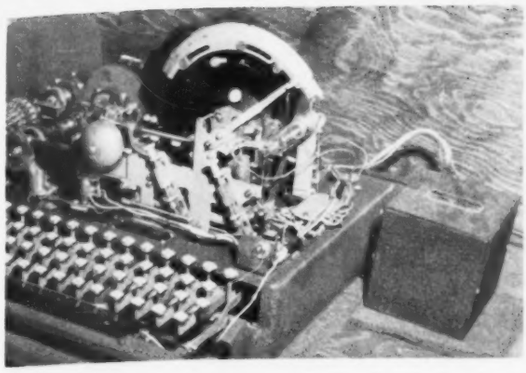


Fig. 1.

Four Developments for Teletypesetter Operation

FOUR devices to assist in obtaining more constant operation of Teletypesetter automatic composition of Intertype and Linotype machines have been developed by Shaffstall Equipment, Inc. These devices, respectively, are (1) Justification Control for Tape Perforators; (2) Linecasting Machine Assembler Slide Brake Release Attachment; (3) Spent Tape Rewinder, and (4) Giant Tape Winder to be used for winding tape automatically as it comes off the Perforator operated by any of the wire services at any hour of the day or night.

Perforator Justification Control. — The first of these devices (see Fig. 1) is called the Perforator Justification Control. It consists of an electrical memory unit contained within a steel case with proper circuit wires to accomplish its function. Its prime function is to prevent sending punched tape to the linecasting machine keyboard operating unit with one or more underset or overset lines in the tape. If the perforator operator attempts to compose a loosely justified line or an overset line, the perforator keyboard is locked immediately and the line must be justified correctly before going on to the next line. A loose line (that is, one in which the spacebands will not expand the line sufficiently to cast) may be corrected by recounting the units in the line and adding thin spaces instead of rubbing out the entire line. A tight or overset line may be corrected by deleting the last word, or a syllable or two of the last word, then recounting the line to check for proper justification, and if necessary add thin spaces. The line locked perforator keyboard may be released by depressing the return key and then striking the rub-out and repeat key in the combination as named. Through the use of the Perforator Justification Control all tape sent to the linecomposing machine keyboard operating unit will be punched with normally justified lines and will operate the linecomposing machine without any stops caused by improperly justified lines.

Fig. 2.

Assembler Slide Brake Release Attachment —This attachment (See Fig. 2) is designed for application to outstanding standard linecomposing machines. High speed machines are equipped with a device which functions in the same manner. The purpose of the attachment is to insure that the last matrix in a line is standing in upright position within the assembling elevator pawls before the line is lifted to the delivery slide. The Release Attachment is operated by a cam on the rear end of the keyboard operating unit elevating shaft which in turn actuates the assembler push rod positioned directly above.

Shaffstall Tape Rewinder—This device (See Fig. 3) is mounted on the outside end of the linecomposing machine intermediate shaft. It will wind tape in roll form as released intermittently or continuously by the keyboard operating unit. Thus the tape coming from the keyboard operating unit may be disposed of in compact form, may be stored for reruns, or for repeat keyboard operation where multiple slug composition is required. The Tape Rewinder consists of a disk and a reel operated by a specially designed spindle, plus a bail which guides the spent tape coming from the keyboard operating unit. The device is attached by one screw to the intermediate shaft. The hardwood disk is 7 in. diam. by $\frac{5}{8}$ in. thick. The six reel prongs assembled in circular fashion in the disk wind the tape so that the coil core is the same diameter as the feeding reel on the keyboard operating unit. The tension exerted by the Rewinder is adjusted so that there is just enough tension to wind the tape. Sponsor states the Rewinder will not tear or mutilate the feed holes in the tape over the feed sprocket in the keyboard operating unit. The slip-drive tension device, it is said, is such that when tape is being fed normally through the keyboard operating unit it will rewind the tape as fast as it comes from the unit. In case the keyboard operating unit stops, the spindle in the reel continues to rotate in the manner of a fluid drive. In other words, operation of the Rewinder is continuous but the rewinding function is only operative when tape is released by the keyboard operating unit. The Rewinder will rewind tape by takes or the beginning end of another take of tape may be attached to the end of the first take with a small hand stapler. The Rewinder will accommodate half a day's tape production.

Giant Tape Winder—This Rewinder (See Fig. 4) has sufficient capacity to wind a complete original reel of perforator tape as it comes from the perforator or reperforator. It is electrically driven by a small 110 v., a.c. ratio motor. It may be clocked into the circuit along with the reperforator which is controlled by a time clock. It is designed particularly for

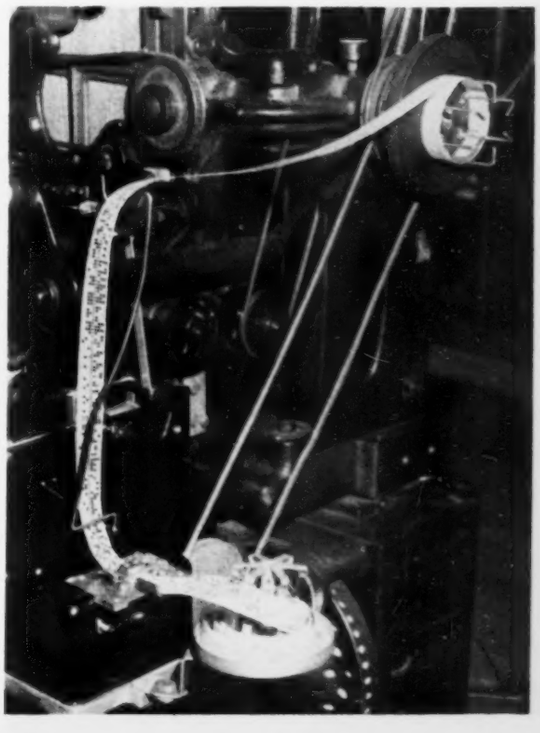


Fig. 3.

Progress in Printing

IF Ben Franklin were with us today and undertook to print on his hand press the newspaper which you bought last Sunday, it would take him 166 days, working 10 hours a day, six days a week. This is one example of the progress made by American's printing industry not only in the field of newspapers but also in books, commercial printing and all its allied fields. January 11-17 marks the celebration of International Printing Week, the nation's tribute to America's printing industry.

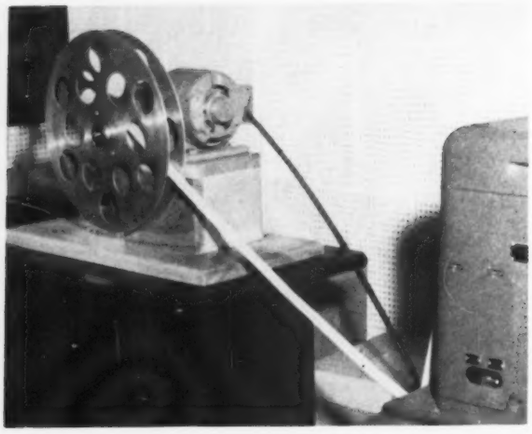


Fig. 4.

plants using early morning wire news service. Or it may be used in plants where the wire service starts an hour or more ahead of the time employees report for work. The tape is neatly wound in roll form. A 10 in. unwinding disk reel is furnished so that a large roll of perforated tape may be placed in short individual takes. Small takes may be wound from it according to the parts the wire service editor wishes to retain for composition in the composing room. A regular Teletypesetter winder is used to rewing perforated tape from the center of the coil of perforated tape wound by the Giant Winder. The Giant Winder is mounted on a 12 in. sq. base and may be set on a table adjacent to the perforator or the reperforator. The reel disk is 10 in. diam. A slip-drive mechanism is employed similarly as in the case of the Tape Rewinder. When tape is being fed by the perforator, the Giant Winder reel rolls it up. When the perforator ceases operation momentarily or for any length of time, the tension device in the Giant Winder spindle permits continuous rotation of the motor and slip-drive shaft somewhat like the effect of fluid drive but without damage to the length of tape between the perforator and the Winder.

Further information will be furnished gladly if you will mention PEE No. 462 in your request.

ANPA Mechanical Committee

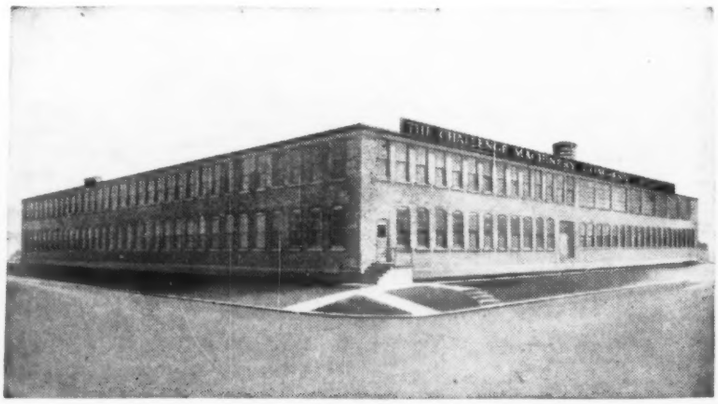
President Charles F. McCahill of the American Newspaper Publishers Assoc. has announced the membership of the Mechanical Committee authorized by the ANPA Board of Directors. Members of the Committee follow: W. E. Gibbons, Chairman, Chicago (Ill.) *Herald-American*; John L. Blake, Scripps-Howard Newspapers, New York, N. Y.; Louis G. Buisch, Hornell (N. Y.) *Tribune*; Henry J. Conland, Hartford (Conn.) *Courant*; Leven T. Deputy, Dallas (Texas) *News*; Harry Eybers, Washington (D. C.) *Post*; Leslie J. Griner, Knight Newspapers, Inc., Detroit, Mich.; Fred E. Gross, San Francisco (Calif.) *Chronicle*; Shields Johnson, Roanoke (Va.) *Times and World–News*; Stephen J. Lambert, Brooklyn (N. Y.) *Eagle*; Charles R. McGuire, Minneapolis (Minn.) *Star and Tribune*; Joseph E. McMullen, Milwaukee (Wis.) *Journal*; John W. Park, Chicago (Ill.) *Tribune*; W. Watson Southam, Southam Co., Ltd., Montreal, Can. Reginald Tranter, Boston (Mass.) *Herald and Traveler*; Earl R. Weiskittel, Youngstown (O.) *Vindicator*.

RIT Enrollment Up

Enrollment of freshmen (68) for the 1952-53 school year in the Department of Publishing and Printing at the Rochester Institute of Technology is 40 per cent greater than in the preceding year, according to Supervisor Byron G. Culver. Although general registration has been completed for the fall term, veterans of the Korean War will be allowed to register late or attend beginning in the spring of 1953.

Challenge Expands Facilities

J. Edgar Lee, President of Challenge Machinery Co., has announced the purchase of a plant in Grand Haven, Mich., which will add 50,000 sq. ft. of floor space to the present facilities of the firm. In addition, Lee announced that Challenge has purchased the manufacturing rights on job presses and paper cutters from Dodson Mfg. Co., Atlanta, Ga., and has also purchased the manufacturing rights and stock inventory of printing equipment from Morgans & Wilcox Mfg. Co., Middletown, N. Y. Present facilities of the Challenge firm include three plants with a total floor space of 207,000 sq. ft. It was stated that the company will announce soon a line of job presses and will take over the manufacture of Challenge M & W job locks and cylinder press locks.



View of the Challenge Plant No. 3 recently purchased by the Challenge Machinery Co. in Grand Haven, Mich.

NPEA Holds Meeting

THE National Printing Equipment Assoc. held a Board of Directors meeting followed by the Annual Membership meeting and dinner at the Chase Hotel, St. Louis, on October 15. No announcement of matters coming before the Executive Committee was made. The Association, however, approved continuance of $6000 financial support to the Education Council of the Graphic Arts. All previous officers and directors were re-elected with the exception of Gordon D. Montgomery, Miller Printing Machinery Co. Robert Corlett, President of Goss Printing Press Co. was elected to fill the vacancy. Officers and Directors of the Association are as follows: President, Fred S. Tipson, T. W. & C. B. Sheridan Co.; Vice President, Joseph L. Auer, R. Hoe & Co.; Treasurer, Harry G. Willnus, Intertype Corporation; Secretary, James E. Bennet. Directors: All of the above officers and Donald C. Cottrell, C. B. Cottrell & Sons Co.; John E. Eddy, Miehle Printing Press & Mfg. Co.; H. G. Evans, Hamilton Mfg. Co.; George A. Heintzemann, Dexter Folder Co.; J. Wesley Lee, Challenge Machinery Co.; Philip P. Merrill, Ludlow Typograph Co.; R. V. Mitchell, Harris-Seybold Co.; Martin M. Reed, Mergenthaler Linotype Co.; Harold T. Simpson, Printing Machinery Co.; Walter A. Sittig, H. B. Rouse & Co.; Edward G. Williams, American Type Founders, Inc.

Flint Distributor

Stone Printing Co., Ltd., of Montreal, Toronto and Winnipeg, Can., has been appointed distributor for Howard Flint Ink Co. Stone will handle the entire Flint line of inks throughout Canada.

Typographic Clinic Moderator and Panel—This interesting picture was taken at the St. Louis Craftsmen's Convention, August, by George Dorrill Photographers. These men composed the panel appearing upon the platform during the Design and Typographic Clinic at Hotel Jefferson.

(Front row, left to right): Amadeo (Tommy) Tommasini, Plant Mgr., University of California Press, Berkeley; Moderator Howard N. King, Vice President, The Maple Press, York, Pa.; John Lamoureux, Vice President, Warwick Typographers, St. Louis. (Back row, left to right): W. J. van Wormer, jr., Art Director, McCormick-Armstrong Co., Wichita, Kas.; Howard N. Keefe, Manager and Typographer, Arrow Press, Cincinnati, O.; William Gleason, Production Mgr., Colonial Press, New York, N. Y., and Glenn M. Pagett, Superintendent, Typographic Service Co., Indianapolis, Ind.

Phototypesetting, plastic type, magnesium plates, nickel-steel plating foundry type, type trends, scarcity of apprentices with talent and employers with appreciation were among subjects discussed. Exhibits were rampant at front of room. They were sponsored by American Type Founders, Inc.; Bauer Alphabets, Inc.; Intertype Corporation, Lanston Monotype Machine Co., Ludlow Typograph Co., and Mergenthaler Linotype Co.

"It was a satisfying gabble-fest," said a well known typographer.

Plant Safety Essential to Industry

THE printing industry, as a whole, cannot progress safetywise unless every printing plant, regardless of size, has a safety program, was the advice of W. A. Anderson, Plant Engineer, U. S. Government Printing Office, Washington, D. C. In Mr. Anderson's absence, his paper entitled *Safety—A Production Necessity* was read by Morris H. Reaves, Supt. of Composition at the GPO, to the 33rd Annual Convention of the Craftsmen held in St. Louis.

Anderson said: "Statistics show that most large plants have safety programs and are saving money by preventing accidents in their plants. Statistics also show that the small plant has a larger percentage of the accidents based on man hours worked.

"Most of the small and medium sized plants do very little about preventing accidents, as they seem to feel secure since they are covered by compensation insurance. Many do not realize that their accident experience as a group determines the amount of insurance they pay. The small operator employing ten persons probably does not realize that he has a bad accident record and is contributing to the high cost of insurance if he has only one lost time accident in a two or three year period."

Printing Moderately Hazardous

The plant engineer described printing as "only a moderately hazardous industry." He said an analysis of the 1951 industrial accident statistics indicates that the printing industry is in 19th place as far as the number of accidents per million man hours worked is concerned.

Anderson added that in order to achieve maximum production, it is necessary that personnel and public relations improve at the same pace as technological improvements. "Instead of just talking about improving employee relations," he continued, "industry can tangibly show employees that it is interested in their welfare and well-being by providing them with healthy and safe working conditions. Public relations will also be improved when the printing industry can brag about printing plants being safe places for people to work.

"Poor workmanship, low productivity and accidents could be the result of physical or mental fatigue or low morale, or of a combination of all these factors. The employee may be doing work manually which could just as well be done mechanically. The worker may be subjected to fatigue from distracting noise or poor lighting conditions or unhealthy working conditions. Or he may be depressed from working in an environment that affects him emotionally."

Safety Programs

He named good housekeeping as an element of good working environment and as means of improving morale. Safety programs in large plants have proven there is a saving in money for the owners, he remarked.

Mr. Anderson described the safety program being developed for the printing industry by the Printing and Publishing Section of the National Safety Council in cooperation with the Education Council of the Graphic Arts Industry. As part of this program, an accident prevention manual is being published which outlines hazards in the various departments of the printing plant and safety information on subjects of general interest to the Graphic Arts industry.

The Education Council proposes to prepare an instructor's manual, he related, which can be used in conjunction with the accident prevention manual as source material for conducting safety meetings. He also told of the safety conference to be held annually by the Printing and Publishing Sec. of the NSC.

The work of the Intl. Safety Committee was mentioned by Mr. Anderson, its Chairman. He called upon the Craftsmen to participate in the Committee's program by promoting safety at local club meetings and district conferences, and taking part in safety activities of local safety councils and trade associations.

A Production Necessity

The GPO engineer said: "Safety is a production necessity. Accident prevention must be accepted by management as a normal part of plant operation. It is just as much a responsibility of the supervisor to prevent accidents as it is to produce a quality product at a high rate of production."

Anderson elaborated on the following points as ways to reduce accidents: provide good seeing conditions; keep machinery properly guarded; offer healthy, safe, pleasant working conditions; provide capable leadership for a plant safety program; actively engage in promoting safety; commend employees for safety suggestions; and do not be satisfied with anything less than a perfect safety record.

25 Years of Operation

The Ace Electrotype Co. of Cleveland recently marked its 25th year of continued operation. Ralph H. Schwarz, President and Treasurer, pointed out that the Ace firm opened for business in 1927 with 11 employees while today, its personnel totals 104. Six of the first employees are still with the company. They are Albert B. Conroy, Daniel F. Kane, Elsie E. Pankuch, Arthur G. Schmotzer, Ralph H. Schwarz and Carl W. Wurster. Ace's operations include artwork, photoengraving, electrotyping, molded and cut rubber plates, stereotype mats and stereotype plates.

Work Simplification Devices Save Time in Iowa Plant

IN THE composing room of the Des Moines (Ia.) *Register* and *Tribune*, Composing Room, Supt. Harry Murphy has put into use a number of devices developed in the plant, all of which have proved helpful in conserving time. The first of these is what might be called a "galley stopper" (Fig. 1). In newspaper composing rooms it is customary to number each slide in advertising composition temporary storage with a corresponding number carried on the head slug of each composed advertisement. The device about to be described is in use in a plant where morning

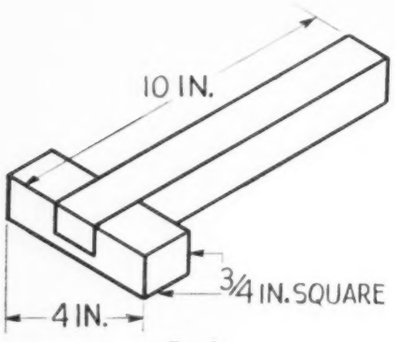


Fig. 1.

and evening papers are published. It can be seen that an advertising compositor on the day side might insert a galley in a storage slide intended for an advertisement which is to appear in the morning paper or vice versa. At the moment, the galley containing the ad for the morning paper might have been pulled out of the slide to have corrections made on an ad compositor's work top. To eliminate possibility of galleys being placed in an empty slide, Mr. Murphy provided some T-shaped stoppers made from pine to the dimensions shown in Fig. 1. When an ad compositor withdraws a galley preparatory to making the corrections, he places one of the T-shaped stoppers in the storage slide with the stopper bar in vertical position. This provides an instantly visible means to indicate that the galley has been withdrawn for corrections.

Column Filler Piece

Another device which has proved helpful in the makeup department of the composing room is a dummy column filler. This filler piece (Fig. 2) is cut from white pine. The purpose of the temporary filler piece is to indicate to all makeup men that news matter is coming which is to be inserted in that column. The filler piece also serves to keep the form elements such as rules, borders and the like in upright position. It is 12 picas wide by full length of the column. It is $\frac{19}{32}$ in. high. Height of the filler piece is not enough to be type high and still is too high to permit inadvertent placing of 16 ga. cuts in the column. A diagonal slot is cut crosswise the filler piece at either end on opposite sides. Into this slot the makeup man can insert his rule to lift the filler piece when he is ready to make up the type matter.

Spacing Material Cabinet

Mr. Murphy designed a machine-cast high spacing material cabinet for use by the ad alley compositors as shown in Fig. 3. The cabinet measures 4 ft. 6 in. wide, by 4 ft. high, by 1 ft. 9 in. deep. It is constructed of stout pine lumber. Arrangement of the cabinet is such that a compositor may withdraw spacing material from either of two open sides. Vertically, the cabinet is divided into five shelves for 2, 6, 12, 24 and 36 pt. spacing material. Horizontally, each shelf is divided by partitions into compartments for 2, 3, 4, 5, 6, 7 and 8 col. lengths. It is estimated that the total weight of the spacing material in the cabinet when full is 7000 lbs.

The storage cabinet is located centrally in the ad alley. Opposite each open side is a saw-trimmer. The full length spacing material is brought to either saw where it is cut up into column width lengths.

In assembling an ad, the compositor goes to the cabinet and selects sufficient spacing or basing material, as the case

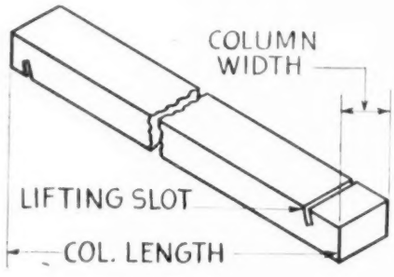


Fig. 2.

may be, for the advertisement under construction. In the case of the *Register* and *Tribune* composing room, this arrangement has worked out very well in saving lost motion and the time required to cut and assemble base or spacing material to exact size.

The cabinet is replenished during slack time so that it will be ready during peak production hours. During working hours, the saw-trimmers are used by ad alley compositors in cutting machine composition.

Small Parts Storage

Chief Composing Room Machinist Carl Bloomberg keeps small machine parts such as springs, buffers, star wheels and the like in orderly fashion. In the instance of the *Register* and *Tribune* composing room floor space as well as other

Fig. 3.

Fig. 4.

cabinet storage space is at a premium. The Kaytee Steel Products steel wall cabinet (Fig. 4) used by Mr. Bloomberg measures 24 in. wide, by 30 in. high, by 6½ in. from front to back. The 128 drawers are of formed steel. Each measures 2½ in. wide by 1½ in. high, by 6 in. front to back. There is an upright tongue stop at the back of each drawer to prevent accidental spilling of the contents. There is a label on the front of each drawer to indicate the content.

Jogging Paper Lifts

In the mailing room of the *Register* and *Tribune*, Mailroom Supt. Joe Menard has made it possible to do a better job and to reduce greatly the physical effort needed to jog lifts of sections for the Des Moines *Sunday Register* before they are placed in the Sheridan Stuffing Machine pockets.

For this purpose Menard has provided 18 in. by 20 in. Syntron platform joggers (Fig. 5) at each station where the sections are to be handled manually. The Sheri-

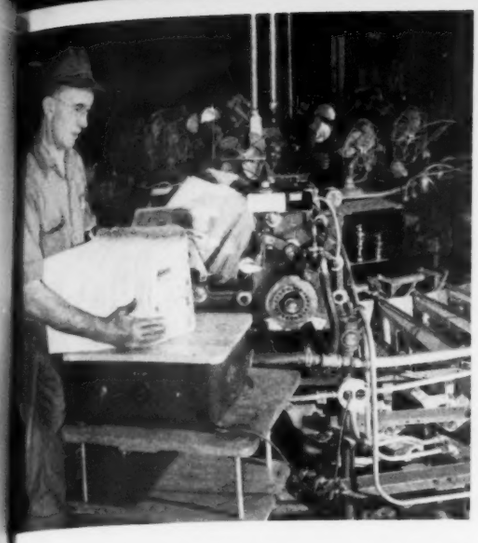


Fig. 5.

dan machine is capable of stuffing 12,000 papers per hr. Perhaps as many as six sections may have to be stuffed once through the machine. Considerable accumulated weight is handled during a shift by each operator in supplying lifts of sections to the feeding pockets of the machine. Another use for the machine is that the assembled papers can also be jogged evenly as they come off the conveyor on the stuffing machine.

The circulation of the *Sunday Register* is in excess of 500,000 copies. It can be seen that the manual exertion required to stuff that many heavy newspapers is greatly reduced through use of the conveyors, stuffing machines and the platform vibrators. In addition, a nice consideration for mailer comfort is that individual 8 in. adjustable electric fans are mounted on the stuffing machine in the center part of the frame. Each mailer may either turn on the fan, leave it unused, or adjust it to suit his own comfort without respect to his neighbor at either side of the feeding pockets.

Carbon Tetrachloride (CCl_4)

By AXEL LUNDBYE*

**Research, The Kable Printing Co., Mt. Morris, Ill.*

THE other day I was asked if carbon tetrachloride was toxic. My answer was in the affirmative. The man did not pay much attention to my answer at the time. A few days later I saw in my newspaper: *MISSOURI GI Killed by Floor Cleaner Vapor*. It concerned a United States Air Force Sergeant who had died after inhaling the fumes of carbon tetrachloride for several hours while trying to remove wax from a barracks floor.

I then contacted a doctor friend of mine and asked him if carbon tetrachloride was toxic. To him this was a very silly question. He said it was not only toxic when its fumes were inhaled, but also very poisonous by absorption through the pores of the skin. The organs most commonly affected are the liver and gastro-intestinal tract. He further stated that if a person used alcohol, he would be much more susceptible to the effects of carbon tetrachloride than otherwise.

To us this was hard to believe because of the general use of carbon tetrachloride in a number of industries due to its non-inflammable properties and other very interesting qualities. Its chemical formula is CCl_4. It has a characteristic ethereal odor resembling that of chloroform. It is soluble in about 200 times its volume of water. It can be mixed with alcohol, chloroform, ether, benzine and with petroleum benzine, and dissolves most of the fixed and volatile oils. Its specific gravity is between 1.558 to 1.590 at 20 deg. C.

As stated, it is used in many industries most extensively as a non-inflammable solvent and to a great extent as a fire extinguisher as well as in many other places in industry. But the use we are interested in primarily is in the Graphic Arts industry as a cleaning agent because it is absolutely non-inflammable.

If it must be used, then place it in the hands of the men who use it with a warning about its danger. It is often sold under different trade names such as Carborra and Pyrene.

As a fire extinguishing fluid, such an extinguisher should never be used in a closed room. This has been proved by the United States Bureau of Mines. Carbon tetrachloride was sprayed on heated steel or on an excelsior fire in a gas-tight room of 1000 cu. ft. capacity. The small use of only 0.3 to 1.0 liter of the carbon tetrachloride resulted in the contamination of the air in the chamber with phosgene to the extent of 15 to 168 parts per million. That is equivalent to 0.4 to 4.5 liters of phosgene. Many fatalities caused by phosgene poisoning have resulted from the use of carbon tetrachloride in fire extinguishers, especially in confined places or small, closed rooms. Carbon tetrachloride should never be used in confined places as a means of putting out a fire because phosgene produces hydrochloric acid when it comes in contact with moisture.

Several years ago, a 26-year-old man cleaned a rug with a gallon of carbon tetrachloride. Within one day he became violently ill and was between life and death for 11 days. For one and one-half months he was very nervous with a faulty liver and heart trouble and he committed suicide.

However, if the carbon tetrachloride is used at low temperatures, the toxication is not as bad.

In the case of a man who worked for two hours in a confined space with carbon tetrachloride, the man got jaundice and an enlarged liver and died after eight days.

We could continue to give example after example of lost health and numerous deaths.

Symptoms:

Headache, hiccoughs, nausea, vomiting, diarrhea, pain and tenderness in the liver area and death.

Treatment:

The treatment should start with removal of the individual from the source of the vapor. Alkalization by calcium gluconate should be given by intravenous injections. That of course should be done by an M. D. and he will, as soon as he knows the case, giving special attention to the kidneys and bowels working.

Every precaution must be taken to prevent inhaling the gas. Where carbon tetrachloride is to be used in industrial plants be sure there is ample ventilation. To minimize accidental death, carbon tetrachloride should never be sold in larger quantities than one pint to the layman. When carbon tetrachloride must be used in an industrial plant, the selection of the people using it must be made with great care. Those persons suffering from diabetes, high blood pressure, weak heart and those using alcoholics should never be allowed to work with carbon tetrachloride.

Old Rubber Hose— Make It Work For You

By LILLIAN STEMP

DON'T discard your old rubber hose. Put it to safety work in your printing plant. It is ideal for the frame of a paper conditioner. Just split the hose, and clamp it on. Easy to do and it

fits snugly. The hose serves as a cushion protection against bumping, especially one's head. See accompanying illustration of such an installation on a paper conditioner at the Western Printing and Lithographing Co., Racine, Wis.

Split a hose and line the edges of fuse boxes. The hose protects the fuse box from mechanical damage. It also safeguards the worker who might accidentally get too near its otherwise sharp corners.

Split a hose, cut it into enough short lengths and provide arm rests at saddle stitching machines. Where this has been done, operators no longer suffer arm bruises through contact with the metal arms on the machines.

Printing supports the largest number of establishments of any industry in the nation. International Printing Week is January 11 through 17.

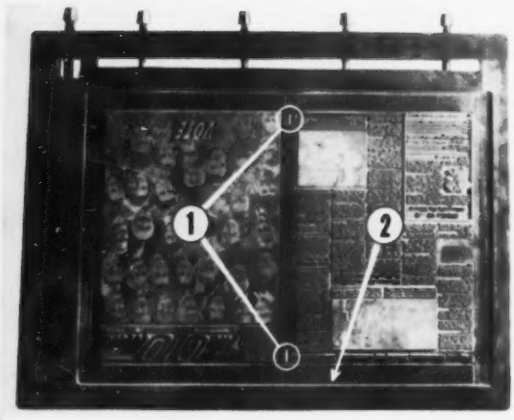
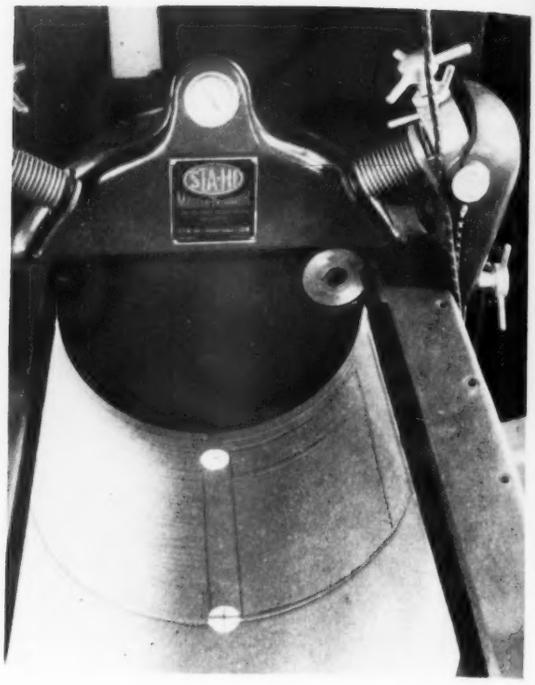


Fig. 1.

Fig. 3.



Stereotype Mats Trimmed Uniformly

AN interesting development came to light recently in the plant of Mercury Press, Washington, D. C. It consists of modification of existing equipment intended for determining register trim of color stereotype mats. In the case of Mercury Press, the modified Sta-Hi Master Trimmer can be used not only for registering color mats but also to determine the trim size of all mats for black printing. This doesn't seem to be too much of an achievement until you are told that Mercury Press prints a number of publications of various sizes ranging from full size newspaper page to stitched and trimmed tabloid magazine format. In stereotype plate work for publications much depends upon the accuracy of trim of the outside edges of the molded mat to insure accurate placement in the plate casting box.

Stereotype mats are pliable things. They contain varying percentages of moisture to make them receptive to the indentation of the form elements. The back of the mat is packed in the non-printing areas with strips of thick paper felt to furnish a support when the metal is poured into the casting box. After molding, the moisture must be dried out to secure a stable mold from which to cast the plate in the curved casting box. Instead of trimming the mats by hand after packing and forming, Mercury Press trims them in the modified Sta-Hi Master Trimmer. In this way, more accurate trim is secured. The mats now fit snugly into the casting box. Varying trim by hand cutter is eliminated because the means for obtaining uniform trim exists in the Sta-Hi Master Trimmer.

General Manager Herbert Pillen of Mercury Press gives credit for development of the device to Foreman William Macauley and Asst. Foreman Joe Curtin. In explaining the improvement, Pillen said that heretofore, the mats were always trimmed slightly smaller than the casting box limits. One operator would push the mats to the right and the next operator would push them to the left. Result was that one page would not always print directly over the page on the reverse side of the leaf. Also, one set of plates would not provide the same margins as the next set of plates on the same publication.

Mr. Pillen continued: "We now pack out and dry-shrink before trimming. As a result, the packing is down to the edge of the mat in every instance, which adds further to the snug fit in the casting box."

As has been explained above, Mercury Press's problem was in obtaining accurate mat trim for varying size publications. The difficulty was overcome in the instance of tabloid type forms by scoring lines in the chase center bars for each publication like that shown in Fig. 1. Thus the trim for either hot or cold molding in a complete set of plates can be effected without changing the projector lights, spots for which are shown on the mat in Fig. 3.

Special makeup furniture is provided for each job in the plant. This furniture is stamped with initials of the publication

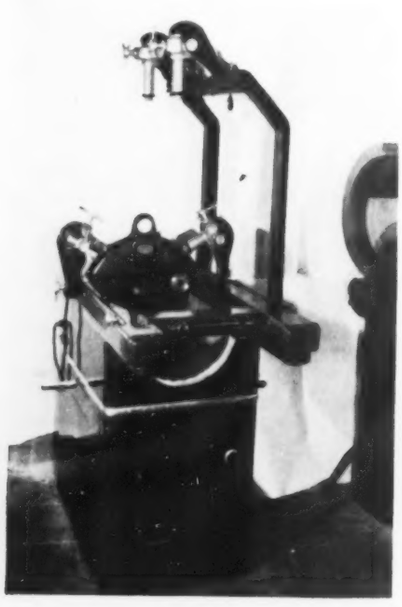
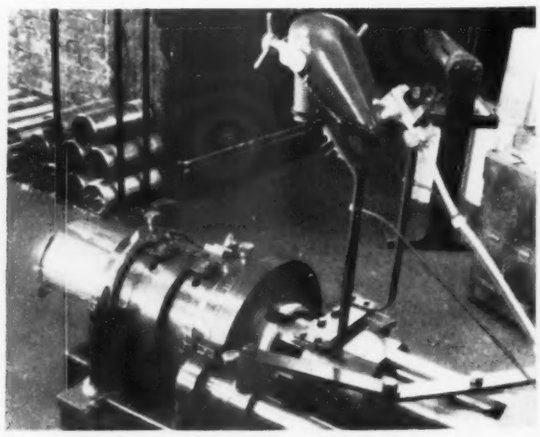


Fig. 2.

Fig. 4.



for identification purposes. The center bar is scored with a hair line at each end (*1* in Fig. 1). The furniture across the top or head of the chase is always of a uniform dimension for each job.

In Fig. 2 is shown a view of the modified lighting arrangement of the Trimmer. It will be seen that two of the projector lamps are in elevated position over the center of the mat. These two lights are positioned parallel to the mat axis to cast the spots on the two hair lines in the center of the mat (Fig. 3). These are the impressions of the two lines identified at *1* in Fig. 1. This permits trimming the mat equidistant from the center of the tabloid pages.

The two projector lights at the end of the Master Trimmer in Fig. 3 are aligned with the top edge of the furniture at *2* in Fig. 1. This permits trimming all mats for the same job exactly the same distance from the top of the type matter.

Better register for color printing as well as for black-and-white plate size and position is obtained. Considerable time is saved in press makeready, particularly on color.

When registering color plates the projector lights are trained on appropriate register marks and the color page mats are aligned with the master page mat.

As is shown in Fig. 4, a projector light similar to those used on the Trimmer was mounted over the head end of the Goss Plate Finishing Machine. The first plate cast for an issue of a publication is locked in place on the machine. Then the projector lamp is aligned with the line in the plate where the edge of the furniture is indicated. The lamp is then locked in registered position and the plate is beveled. All subsequent plates for that issue are aligned with the spot cast by the projector lamp. Each plate is also locked in position before the plate engages the knives. All plates in the set now carry uniform distance between the type matter and the bevel.

Progress

In methods and equipment shown at photoengravers' convention

By LOUIS FLADER

THE American Photoengravers Association held its 56th Annual Convention, October 6, 7, and 8 at the Drake hotel in Chicago. Over 1000 persons registered, requiring the facilities of two additional hotels to house them. The Exhibition of Photoengravers' Machinery, equipment, materials and supplies was larger than usual and was housed in the Drake and Knickerbocker hotels.

Forty-five concerns exhibited their products in 63 booths. All machines and equipment were in operation and demonstrations were conducted. Chemco Photoproducts Co. erected a darkroom and installed a camera, enabling its operators to demonstrate the use of its equipment and make negatives before the spectators.

Color Masking

A great deal of attention in late years has been focused on color process reproduction. It has long been recognized that the photographic separation of colors has been far from perfect and that it furnished chiefly a base for color etchers and finishers, requiring them to spend a great deal of time in manual manipulations to obtain a satisfactory reproduction. This adds to the cost of the finished product; therefore, the effort has been to improve photographic color separation, obtained chiefly through a method known as masking. This entails a number of steps and includes the making of positives from the original color separation negatives, which then are superimposed upon the negatives, thereby modifying the latter and bringing about better separation of the colors in the original. This, in the main transfers much of the work from etchers and finishers to photographers. It also results in better reproductive quality, although the time saved by this method is not all that is desired.

Color Separation and Correction

There are three radical departures from the conventional methods employed in color reproduction photography. Printing Developments, Inc., New York, described its latest innovation, the Time-Life Electronic Color Scanner. Radio Corporation of America described its All-Electronic Color Correction Method and Device, both depending upon electronics for their results, although somewhat different in application. The first has had several electronic color scanners in use for over a year and has obtained promising results. The Time-Life Electronic Color Scanner represents over 10 years of research and experimentation, and although in actual use it is being developed for great efficiency.

The RCA All-Electronic Color Correction Method has proceeded to the point where a pilot device is in operation, with results being closely studied with a view of further improvements. Both electronic methods and devices offer equal opportunities to photoengravers, photolithographers, and gravure plate and cylinder makers.

William C. Huebner, Hübner Laboratories, Mamaroneck, N. Y., described and exhibited his Prismatic Color Corrector. This is based upon an entirely different principle and does not employ electronics. He states the Color Filter System universally employed cannot produce accurate color separations, since the filters are color blind to approx. 35% of the colors represented in the copy. Any color filter comprises only a narrow band of color regardless of its location in the color spectrum. A Color Blind Color System cannot separate exactly the yellow, red and blue primaries because it passes unwanted colors on to the color sensitive plate. He restates the well-known fact that some form of color correction is necessary on every color job done by the color filter system and that the final result depends upon the skill of the craftsmen as well as their color judgment.

The Prismatic Color Corrector is a direct color copy illuminator for transparent and opaque copy. It produces correct color cancellation of unwanted colors. Measured and selected elongated color bands move across the copy and record unwanted colors, leaving pathways for true color reproduction finality. White light is projected through a slot running the full length of the prism and projects pure color light directly through a transparency or upon the surface of opaque color copy. It enables the operator to eliminate the black and gray image completely out of each of the three color separation plates. It rids the component plate from unwanted colors underlying the black.

Samples of four-color reproductions made with the Prismatic Color Corrector and upon which no color correction or manipulation was done on the plate, were submitted. Huebner stated that the Prismatic Color Corrector is ready for the market. The idea is new and revolutionary, and its application may result as an outstanding contribution to the reproductive processes.

Officers of American Photoengravers Assoc., for the year 1952-1953 (left to right): President, D. H. Murnik who is also President of Oakland (Calif.) National Engraving & Gravure Co.; First Vice Pres., W. K. James, Weeks Engraving Co., Philadelphia; Second Vice Pres., R. C. Walker, Tulsa, Okla.; Secretary-Treas., C. G. Rhorich, Akron (O.) Engraving Co.

Speakers at the opening session of the 56th Annual Convention of the American Photoengravers Assoc. held recently in Chicago are shown from left to right: Rudolph Koenig, President, Chicago Photoengravers Assoc.; Alfred P. Regitz, General Convention Chairman, Chicago; Frank J. Schreiber, APEA Executive Secy., Chicago; W. K. James, APEA President, Philadelphia; Paul C. Clovis, President, Twentieth Century Press, Chicago; and Erwin A. Miessler, Vice Pres., Needham, Louis & Brorby, Inc., Chicago.

Fairchild Scan-A-Graver

The Fairchild Scan-A-Graver was fully described and its potentialities disclosed. The machine was exhibited and in constant operation. It was claimed that 850 Scan-A-Gravers are in use. Although the machine is not new, it is being constantly improved and it has possibilities of interest to all newspapers, publishers, etc. It is an ingenuous device, based upon electronics and operates as follows: The copy to be reproduced is wrapped around a cylinder and a sheet of plastic material is likewise attached to a tied-in cylinder on the same shaft. A scanning light passes over the copy as the cylinders revolve and the reflection goes into an amplifier. Sufficient energy is created to activate a tool or point which passes across the copy line by line. The point being heated, burns a dot in the plastic, thus creating a pattern similar to a halftone. The machine at present is limited as to size of both copy and plate, and produces a screen effect over the entire surface, eliminating its use for the production of line copy.

Cameras

There were a number of cameras on display, among them the conventional gallery and darkroom types, all of them built of metal throughout, moving parts electrically operated, and all built to exact precision with attachments for masking, photocomposing, highlight reproductions, etc.

The Multichrom camera, originated in Germany and manufactured in England, was shown for the first time. It is claimed this does everything that any other reproduction camera can do and in addition enables the operator to produce color corrected halftone negatives by the direct photographing method. It is based upon scientific principles and is being used in England with apparent success. It is in reality a composite of two cameras, and exceedingly difficult to describe in a meaningful manner without at least several illustrations.

The Klimsch cameras of German origin and manufacture are complete units, including illuminants attached to the camera; have automatic focusing, a compartment for removing the screen, allowing for secondary exposure, and a vertical upright camera was also shown. Cameras made by Consolidated and the Sussin Corporation, both color and black and white, were displayed and demonstrated.

Photographic Lamps

Great improvement has been made in illuminants, and the various arc lamps displayed by several manufacturers designed to produce pure white light and a constant non-varying light, source were really marvelous. Some of these lamps contain motor-driven devices that keep the carbons in the same relative position at all times. A variety of instruments designed to produce a designated volume of light during photographic exposure were also shown and demonstrated. These devices record the slightest variation in current and extend or reduce automatically the length of exposure.

Various Supplies

The Eastman Kodak Co. demonstrated a number of its light and color sensitive materials used in color separation, halftone negative making, and in masking. ANSCO featured a simplified direct system of combined color separation and halftone negative making. Chemco Photoproducts Co. featured a new film labeled Power Dot which it is claimed duplicates the sharp dot structure and opacity of the wet plate. The film is also faster than the strip film used heretofore. Taken altogether, the photographic phases of both color and black and white reproductions held the spotlight.

Drop-out Methods

Since the halftone screen results in a dot formation over the entire surface of the copy, many efforts have been made since the inception of photoengraving to eliminate the screen in the extreme highlight portions of the original. This has been accomplished in various ways, all of them more or less uncertain, and involving a number of manipulations. The problem was finally overcome some years ago by the use of fluorographic materials applied to the copy for reproduction, supplemented by a second exposure usually under a colored light which overexposes the highlight portions, thus eliminating the dots entirely, making opaquing and other manual operations unnecessary. There are two processes of that type on the market and in general use. One is featured by the Printing Arts Research Laboratories and the other by Kemart Corporation. Both were on exhibition.

All known etching machines were exhibited and these differed chiefly in construction. All have been improved, some including devices to control the temperature of the etching fluid and its copper content.

Band Sawing

Considerable progress has been made in substituting band saws for the conventional sawing, beveling and trimming machinery generally in use. Several of these machines were on display, all of them basically alike, each having a variety of attachments for accuracy and speed of operation. These have been found most desirable since the introduction of adhesives in mounting photoengraved plates on wood or other bases. This combination of plate mounting and block finishing enables mounted plates to be delivered in exact measurements in inches or picas, and as no bevel is required in mounting plates with adhesives, the printer is able to set type close to the cut.

Proof Presses and Pre-press Methods

The progress made in Proof presses is well known and today practically all engravers' proof presses are of the cylinder type, made in one, two and four-color models of sizes to accommodate anything likely to be encountered by the photoengraver. Vandercook & Sons, Inc., also featured block levellers and gauges used in the production of precise materials. Vandercook has developed a method of mounting plates on metal, which from the standpoint of accuracy and printing results with minimum makeready, is bound to be beneficial to the letterpress industry.

Four Color ROP Color

The growth of ROP Color in newspapers is a subject keenly interesting to photoengravers and received full attention during the convention. Three different procedures are used in ROP newspaper color platemaking and printing. The Chicago *Tribune* is an outstanding exponent of the conventional four-color process reproduction method tailored to fit its requirements. It reproduces color transparencies and color drawings by the conventional method of color separation, and the printed results appearing in its daily and Sunday editions are excellent. The Chicago *Tribune* has printed four-color reproductions in its daily paper of news events, photographing the scene in the afternoon and printing a four-color process reproduction in the following morning paper.

Three Color ROP Color

The Milwaukee *Journal* uses the three-color method of reproduction, omitting the black in the picture subjects and using it for type only. It has developed a method of color separation which gives it a great measure of control in every step and has obtained excellent results. It is probably the only newspaper in the country using that particular method. While in theory the three primary colors, yellow, red and blue will reproduce all colors including black, it is difficult to obtain the necessary density in newspaper printing due to the inks and the paper used.

Artist ROP Color

The third method is dependent entirely upon copy preparation and the application of photographic color separation is not involved. This method has great appeal to newspapers of perhaps smaller circulation and without the installation of the equipment necessary for color process platemaking. This method, used with great success by the Dallas (Tex.) *Morning News*, consists of making a key drawing containing the outlines in certain portions, which usually are printed in black. The artist then prepares another drawing of the wanted color plate, this being made on transparent material to insure register. An extra drawing is made for each separate color. The photoengraver photographs the key drawing and the color drawings (all of which are rendered in black) in the same focus and etches the plates. The success of this method depends upon the pressman's ability to match colors. Each color represents an arbitrary selection and the primary colors are not involved. While it is possible to obtain color combinations by overprinting, this as a rule is not done other than to overprint the key plate over the others. In selecting the colors it is possible to match the color of the merchandise advertised, and the results displayed demonstrated the method can be used to advertise an endless variety of merchandise and to obtain very attractive effects to capture the attention of the reader.

The experience of all newspapers in using ROP Color is that its effectiveness in the sale of merchandise is many times greater than when only black illustrations from type are used. Advertisers using ROP Color in newspapers testify over and over as to the beneficial results obtained.

Business-Managerial Sessions

The business and managerial side of the photoengraving business received the attention of several speakers and two seminars were conducted which permitted of audience participation. One of these was entitled, *Behind the Scenes of the World's Largest Art Studio*, this being the Vogue-Wright Studios, Chicago. A great variety of art and photographic subjects were displayed, each prepared for a definite result and reproduction. Since the preparation of originals largely determines the final result, the relation between copy preparation and reproduction is intimate indeed.

A seminar covering the proper use of the Standard Scales for Photoengraving was conducted and took up an entire afternoon. This was highly informational and will prove both instructive and beneficial to the buyers of photoengraving. Cost accounting and marketing also received attention at the hands of several speakers, and taken altogether, the convention program was extremely well balanced and the addresses and demonstrations dealt with only the important phases of photoengraving. No time was spent on inconsequential subjects.

The social events were well planned and executed. They consisted of a reception and cocktail party on Sunday afternoon preceding the opening of the convention; theatre parties on Monday evening and the annual banquet on Wednesday evening after the close of the convention. The ladies were entertained at luncheons, sightseeing trips, a fashion show and shopping tour.

Control Developments

In viewing the Chicago Convention of the American Photoengravers Association in retrospect, the following observations are pertinent: Photoengraving although based upon scientific principles in the realms of physics, optics, chemistry and mechanics, in its inception was dependent upon the acquired skill, artistry and perception on the part of its practitioners. Control was almost entirely lacking. Operations repeated innumerable times over a period of years developed a certain technique and although remarkable results were attained, these were often due to what might be termed trial and error procedure. In late years the desire for basic understanding and control has brought about many improvements, all of them designed toward greater production, improved quality and predetermined results. Increased costs with which the photoengraving industry is confronted in line with all other industries, have compelled a vast amount of research and experimentation to produce results within the reach of the public which buys the product.

Engraver In Step with Progress

Photoengravers are also becoming more and more aware of the fact that their product is one of the supplies of printing and that it must be integrated with all of the processes involved in modern printing in order to hold its own in competition with other printing plate methods. The photoengraver no longer is satisfied with merely producing plates that render a reproduction of the original on a proof press. He is becoming more and more concerned with producing photoengravings that will fit snugly into the modern printing assembly line and will be geared to it and its mechanical requirements, as well as in pictorial quality.

The Graphic Arts industry as a whole is on the threshold of revolutionary changes in which printing platemaking is destined to play a most important part. No basic changes have been made in letterpress, offset-lithography or gravure in the last 50 years. True, many refinements in machinery and equipment leading to greater production have been made. Basically, the art of printing consists of depositing a layer of ink on the printing elements, and transferring the latter onto paper under pressure. Printing today is faster although not always better, and all improvements have been slanted toward mass production in which the ultimate has not yet been reached. We may expect in the not too distant future revolutionary methods in both platemaking and printing, presenting possibilities we cannot now even contemplate.

Officers and Directors

The following officers were elected for the ensuing year: President D. H. Murnik, Oakland, Calif.; First Vice Pres., W. K. James, Philadelphia; Second Vice Pres., R. C. Walker, Tulsa, Okla.; Secretary - Treasurer, C. G. Rohrich, Akron, O.

Executive Committee Members—E. Bartlett Brooks, Dayton, O.; Thomas L. Cooper, Atlanta, Ga.; Addis W. Dempsey, Boston; Edward W. Hill, Chicago; Chas. A. Powers, New York, N. Y.; Walter V. Stewart, Detroit, and Henry L. Watkins, St. Louis, Mo.

The Fifty-Seventy Annual Convention of the American Photoengravers Association will be held in Boston, October 12, 13 and 14, 1953.

Bigger Than Ever

Maintenance problems in 11 industries, which include printing and binding and paper mills and paper products, will be discussed in 66 separate sessions at the Plant Maintenance Show and Conference, to be held at the Public Auditorium, Cleveland, Jan. 19 and 22, it was announced by Clapp and Poliak, Inc., which conducts the events.

Both show and conference have been planned on a scale never before attempted in the maintenance field. Three hundred and fifty companies are expected to conduct exhibits, with some displays scheduled to be larger than 3000 sq. ft. Total display space will be 75 per cent greater than that of the show held in January of this year, and six times larger than the 1950 exposition.

Separate meetings also will be held for maintenance problems in small, medium and large plants. Panel discussions will include *Planning and Scheduling Maintenance Work, Maintenance Costs and Budgets, Training Maintenance Workers and Supervisors, Work Standards and Measurements*, and *Growing Pains of an Engineering-Maintenance Organization.*

L. C. Morrow, Consulting Editor, *Factory Management and Maintenance*, will serve as General Chairman.

Advance registration cards may be obtained from Clapp and Poliak, Inc., 341 Madison Ave., New York 17, N. Y.

International Printing Week, January 11 through 17, serves as a reminder that printing is a recorder of progress.

Front entrance, The Findlay (O.) Printing & Supply Co. Robert W. Dickerson, Cleveland Newspaper and Printing Plant Engineer, designed and supervised construction of the building.

Commercial printing plant grows

By STAFF WRITER

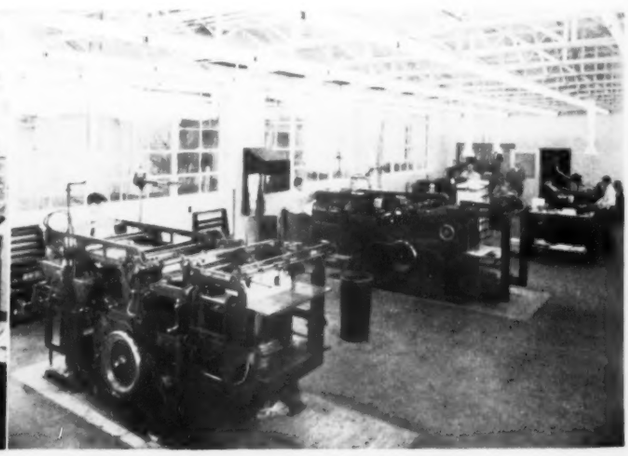
THE Findlay Printing & Supply Co., Findlay, O., provides an outstanding example of what can happen to a printing business which does a good job, serves its customers well, and manages its affairs wisely—it grows. And, with growth comes expansion of its services, the need for more production equipment, and the demand for more and better space.

Prior to occupying the company's new building early in 1951, printing operations had shared space with the stationery and office supply business also operated by the company. As each branch of the business prospered and grew, competition for space became more keen. After all reasonable possibilities for expansion of construction on the site had been exhausted, openings through walls gave access to space in adjacent buildings. When this additional space was no longer sufficient to alleviate the badly overcrowded conditions, the decision to build was inevitable.

The site of the new plant is some two blocks distant from the original scene of operations. While still in the downtown area, property in the immediate vicinity of the site had only recently had a zoning change from residential to commercial. Both because he wished to lighten the impact of this change upon his neighbors, and because of his conviction that an attractively designed building on a well groomed site is a business asset, President W. S. Thomas selected a site of sufficient area to accommodate the building and still allow plenty of room for light and air as well as proper landscape treatment.

The building as now constructed occupies slightly over 7500 sq. ft. Space at the

View in composing room section of Findlay (O.) Printing & Supply Co. All of the equipment is modern. Ample light with assistance of reflection from well painted off-white and light green glazed tile walls makes seeing tasks effortless and facilitates workflow.



View in pressroom section. Besides artificial daylight from clear glass windows, lighting is supplemented by fluorescent lighting. Over the concrete floor slab, Stonhard mastic floor surface has been applied. It is said floor maintenance is easy and is comfortable.

rear of the plant will permit the addition of some 1500 sq. ft. of shop space plus a three car garage.

The front portion of the building contains executive offices, accounting, sales and display space and a large fireproof vault for the storage of records, orders, etc. The office end of the building is built of buff face brick and has continuous glass block panels across the front and extending back on both sides. Trim is of Indiana limestone.

In the shop portion of the building the walls are of concrete masonry units and large industrial type windows. The concrete masonry is painted to harmonize with the face brick, using a damp-proofing masonry paint. The roof is supported on long-span steel joists which afford a clear wall-to-wall working area without columns.

The roof slab throughout the plant is of poured-in-place gypsum. For the shop area the gypsum is poured on Insulrock board, a material of high insulating as well as efficient acoustical properties. The underside of the Insulrock board forms the exposed ceiling. For the office area the gypsum is poured on standard gypsum board, and a suspended plaster ceiling is hung below the roof beams.

The interior walls of the shop area are faced to a height of about 7 ft. with glazed tile of a pleasing green shade. These provide a readily cleanable surface and have a fairly high light reflecting factor. Walls above the glazed tile are of masonry, painted an off-white color to match the ceiling. Walls of the office area as well as ceilings are plastered.

The plant has no basement and, having its floor slab bearing directly on the earth, is heated throughout with radiant heat from hot water circulating through copper tubes embedded in the floor slab.

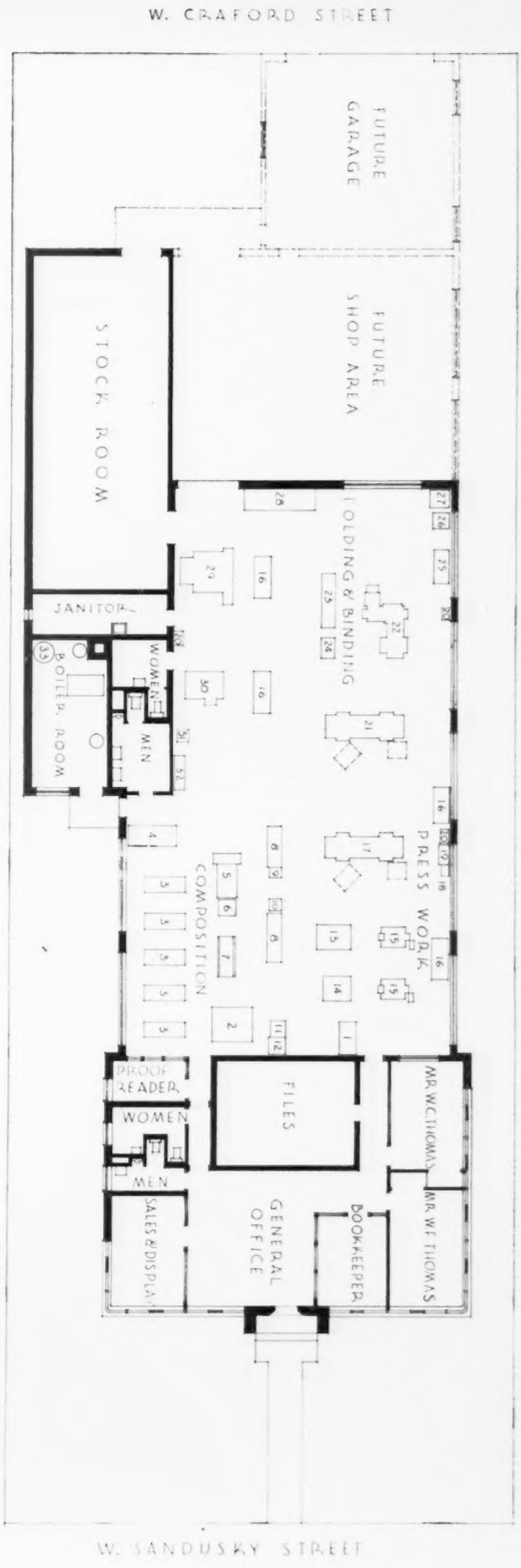
The shop floor is Stonhard, a mastic floor surfacer troweled over the top of the concrete floor slab. This material makes a floor that is easily maintained and one that is very comfortable for the workers. Floors of the office area are of asphalt tile.

Lighting throughout the building is by means of fluorescent units, those in the shop being in continuous rows and providing an illumination level of from 40 to 50 foot candles at the working plane.

Clean, attractive locker and toilet facilities are provided both for the shop and offices.

William C. Thomas, who is in direct charge of the printing end of the business, occupies an office adjacent to the shop. Sliding sections in large plate glass panels in the wall between his office and the shop permit ready communication with the shop and facilitate the passing of proofs, orders, and other materials. Thomas, who is a graduate of Carnegie Tech has a B.S. degree in Printing Management, had much to do with the practical layout of the plant. Much credit is due him for the direct and efficient operation which the plant affords.

Robert W. Dickerson, Newspaper and Printing Plant Engineer of Cleveland assisted with the plant layout and designed and supervised the construction of the building.



Key to Floor Plan Layout of the FINDLAY (O.) PRINTING & SUPPLY CO.

1. Desk
2. Line-casting Machine
3. Bank
4. Makeup Table Storage
5. Galleys
6. Saw
7. Proof Press
8. Makeup Table
9. Chase
10. Type
11. Galley
12. Magazine Rack
13. Kluge Press
14. Chandler & Price Press
15. Miehle Vertical Press
16. Table
17. Miehle Horizontal Press
18. Ink
19. Parts
20. Sink
21. Miehle 29 Press
22. Folder
23. Folder Shelving
24. Stitcher
25. Perforator
26. Drill
27. Punch
28. Shipping Table
29. 40 in. Cutter
30. 34½ in. Cutter
31. Drinking Fountain
32. Cut Storage
33. Metal Furnace

Maintenance-Production Control in Medium Size Newspaper Plant

By HAROLD D. WINN*

**Mechanical Supt., Hollywood (Calif.) Citizen-News. Abstract of address delivered before San Francisco ANPA Mechanical Conference, June 1952.*

WHILE we are all engrossed in day by day production problems, we are often guilty when it comes to an overall picture of breakdown prevention. We who operate in our near cities where the supply people maintain branches are indeed lucky in that we are able to get parts and supplies in a matter of an hour or two. Those who are miles away from the source of supply have a greater need for a closer analysis of preventive care with inventories to match the needs of their particular plant.

You who maintain competent machinist departments perhaps cannot visualize that there are places where machines are run until a breakdown occurs without having had any attention other than a little oil here and there and some graphite on the spacebands. Without a doubt, one of the most important functions in any plant is that of a competent machinist. His department, whether it be a one-man shop or one with a dozen men, is the key to even production.

One of the weaknesses of modern production management is that line-composing machines operated automatically by TTS equipment of necessity, are kept in tip top shape. With manual operation, however, the machine is not kept in as good mechanical condition, the operators being expected to compensate for faulty parts action.

Planned care of equipment is a vitally important factor in keeping production at a high level. A worn part on a machine can cause a production loss costing twenty times the cost of the part had it been replaced in time. The machinist who uses logic and foresight is one of the best insurance policies. Many of us are reluctant to allow a man to do this. We, too often, feel that such expenditure is unnecessary until the need actually occurs. There is nothing more distressing than trouble. A maintainance chart by which a running daily, weekly and monthly record of every item of care on each machine is kept is something all plants, large and small, can use profitably. Some machinists may think keeping such a chart record is a time waster but they will find that the system will eventually prove out.

Layout by Production Control

A number of years ago many composing rooms handled the layouts for the newspaper. According to ANPA bulletins reporting the conferences as late as 1940, there were still quite a few doing this but somewhere along the line there seemed to be a general stoppage of this practice for one reason or another.

I am one of those who still clings to the practice of laying out our various papers. I do not advocate it as a general practice because it does bring a lot of headaches which probably should be carried by the advertising department. The practice would probably be entirely impracticable for a metropolitan paper but for one of medium size and smaller, I believe it has its merits. Here are a few:

First, it gives us the authority to allot the space for newsmatter. This immediately gives us the clue to the exact amount of type we will need to set.

Secondly, we have learned ad positions to such a degree that, if for any reason an ad needs to be switched in order to speed up the release of a page, it is within our authority to make such a change.

Thirdly, we are able to find ways to hold down the size of the paper. We often eliminate the need of jumping two pages in order to take care of a few extra columns of reading matter.

We work on a minimum of news space. Whether we run 18 or 24 pages, we have the same amount of reading matter in the paper. When the paper goes over 24 pages we add two columns of news for every two pages we go up.

From 18 to 24 pages the figure increases 336 in. for every two pages as the minimum figure on newsmatter holds through this range. Naturally, we run into days when the ads total somewhere between the two-page figures. If the amount is but a few columns over, I use leeway ads in order to stay in line. If there are none, I sometimes chisel a little space from the various departments: Sports, film, society and news in order to squeeze it in. When this cannot be done, that is the day you will see a filler ad or a picture page but seldom do you see more reading matter because our straight matter manpower is geared on a fixed basis.

In connection with this, we noted recently the National Advertising Managers Assoc. recommended that whenever possible, the advertisers should permit newspapers to run a scheduled ad on another day of the same week. They would work to the benefit of both the advertiser and the newspaper in so doing. The advertiser should be able to get a better position because of crowded conditions one day against another. The proposal would benefit the newspaper by eliminting the need to jump two and in many instances, four pages, resulting in the unnecessary use of expensive newsprint.

Our setup, which gives me the daily knowledge of the exact amount of type we must produce also gives the machine operators a true picture of what we need in production from each man.

I place a page deadline time at the top of each layout going to the editorial room. It is the editorial department's clue as to when that page should be in the composing room with all lead stories, cuts and captions guided in, together with the copy for same. These deadlines are judged by the ads on the page. If national, the page will be early. If a local department store, it will be one of the later pages. It might be interesting to note that we have an average of less than two columns a day of overset kill. Those plants that have already done so or are considering placing the Dispatch department under Production control, can readily incorporate layouts as one of its functions.

•Time-Saving Tip

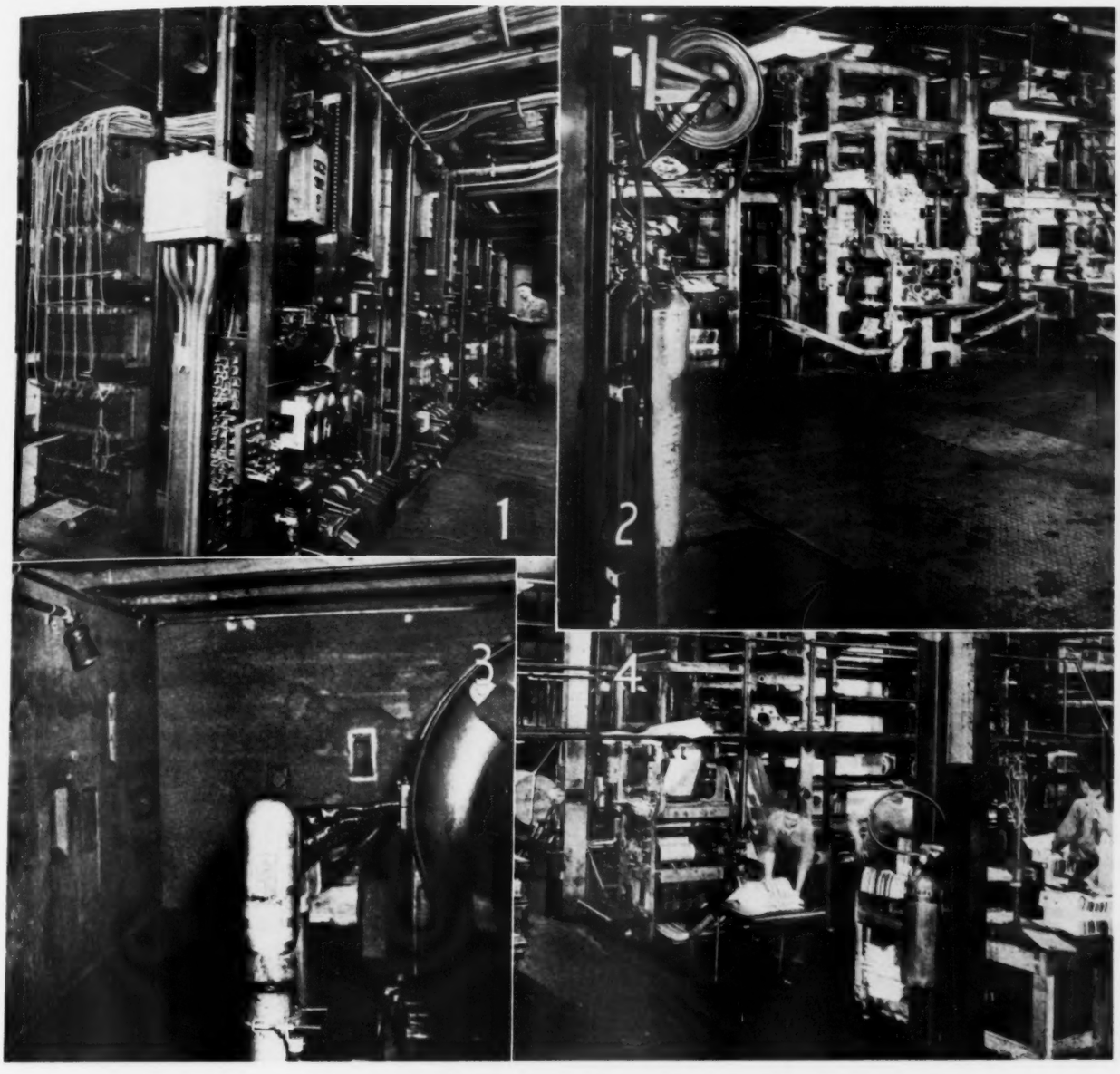
Sorting Leads and Slugs

COMPOSING rooms are consistently plagued with the time-consuming task of returning leads, slugs and reglets to their proper compartments in the racks. In many cases, it involves measuring each individual piece with a line gauge when many different lengths are taken from a form. Let a specially scored galley show you how long each piece is. An ordinary galley is used and carefully scored lengthwise into one-pica-apart lines. This can be done with black India ink. The proper numeral is placed at every 5-pica distance, such as 5, 10, 15, 20, 25, etc. The leads and slugs are placed with one end against the zero edge of the galley and the worker can immediately see what measure the other end reaches. Should several pieces of the same length be found on the galley it enables immediate sorting and more than likely saves a trip back to the rack to return that particular size. — Reported by Herbert Ahrendt, Vice Pres., Ahrendt, Inc., New York, N. Y., before Cleveland Craftsmen's Club.

Harris-Seybold Report

Harris-Seybold Co. reports net shipments for the fiscal year ending June 30, 1952, in excess of $22 million in its 28 page annual report. Shipment volume last year for the firm was $21,774,637. Center spread of the report contain four-color illustrations of Harris-Seybold equipment in use. This equipment includes an offset press, rotary letterpress, paper cutter and book trimmer. Cover design for the report, printed in three colors, shows a stream of printed sheets coming from a Harris press and circling a globe of the world.

Printers honor Benjamin Franklin, patron saint of the printing industry, during International Printing Week, January 11-17.



Fire Extinguishing Equipment Installed for Printing Plant Safety—International Color Printing Co.'s three plants in Wilkes Barre, Pa., and Peoria, Ill., have installed safeguards against fire damage to presses resulting in delays in production, according to a report by Walter Kidde & Co., Inc. The fire protection apparatus consists of a number of built-in fire extinguishing systems, hose reels and portable extinguishers—all utilizing carbon dioxide as the extinguishing agent.

The built-in extinguishing systems operate automatically in case of fire and are also equipped with pull boxes for manually actuating the protective devices. The carbon dioxide, which discharges as an inert gas, eventually dissipates into the atmosphere leaving no damage to the press units, electrical controls or motors. Another reason for employing CO^2, states the Kidde company, is that it is a non-conductor of electricity. Shown above are views of the ICP installations.

1.—Electrical control room at ICP's Sheldon plant in Wilkes Barre, Pa., which houses approx. $25 thousand of main electrical equipment for the plant's presses. A Kidde total-flooding carbon dioxide system has been installed. Temperature-rate-of-rise detectors are mounted above each electrical panel. The temperature rise, as occasioned by fire, causes the elements to trip six 75 lb. cylinders of carbon dioxide. The CO^2 floods through piping and is discharged from Multijet nozzles in sufficient quantity to reduce oxygen in the space to a point which will not support combustion. Operation of the system rings alarms and shuts off ventilation of the space.

2.—Located throughout the pressrooms are 13 manually operated 100 ft. hose reels. Connected to each are two 50 lb. cylinders of carbon dioxide. The reels are placed at strategic points so that one or more of them can be brought into play on any one of the presses in the event of fire.

3.—One of the 13 motor-press pits at International Color Printing Co.'s plants where built-in automatic fire extinguishing systems have been installed. Here, the carbon dioxide is supplied from one 35 lb. cylinder. A continuing temperature rate-of-rise causes detector elements to actuate the cylinder. Carbon dioxide passes through piping and is discharged from Multijet nozzles (one nozzle can be seen on left wall) into the pit.

4.—Numerous carbon dioxide portable fire extinguishers are located throughout ICP's plants. One of these units is attached to the pillar in right foreground. The CO^2 cylinders at base of pillar (left background) supplies the automatic fire extinguishing system protecting the press pit and auxiliary machinery space.

Cronak Treatment Simplified by LTF

THE two Cronak treatments that have been developed by the Lithographic Technical Foundation (Pre-Cronak and Post-Cronak) have done outstanding jobs of improving zinc albumin plates. The Pre-Cronak treatment, applied before the plate is coated, keeps the zinc from oxidizing, produces sharper images and makes the plate easier to develop. The Post-Cronak treatment uses the same Cronak solution but is applied after the plate has been developed. It removes residual coating and improves the desensitization and life of the plate.

To get the full measure of protection against oxidation, LTF has always recommended that the best time to Pre-Cronak plates was immediately after graining. This was often not too convenient. Many plants buy plates already grained. Others don't have the personnel and equipment to treat plates after graining.

Preventing Oxidation

A satisfactory way to protect zinc plates from oxidation during storage is the method that was described in LTF's *Research Progress* No. 10. This calls for the use of a 2 per cent sodium bichromate solution instead of plain water as the lubricant in the graining machine. Sodium bichromate in the grainer seems to give zinc plates ample protection against oxidation under the storage conditions in most plants.

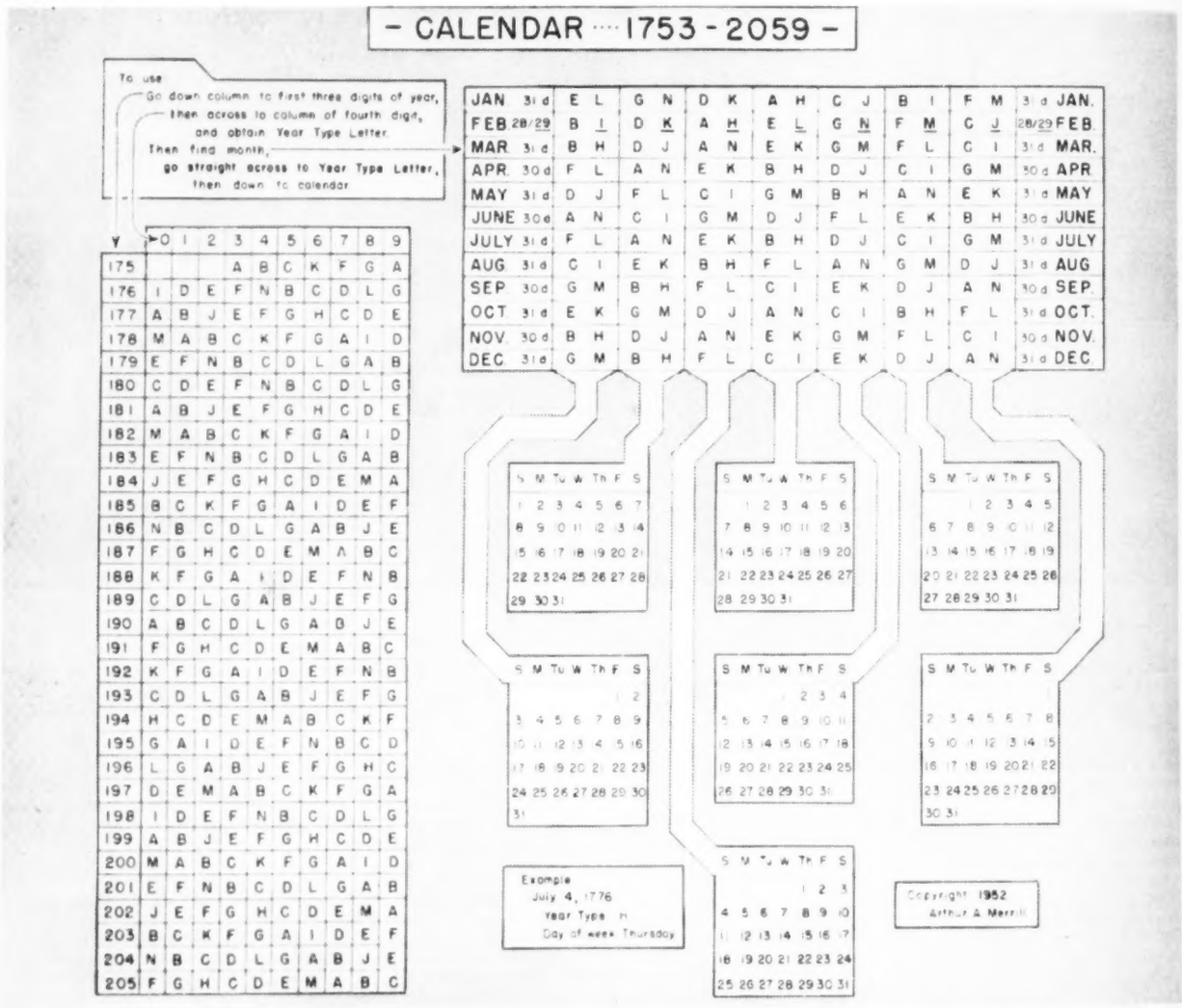
So, LTF's present recommendations are: (1.) use sodium bichromate in the grainer; and (2.) apply the Pre-Cronak treatment when you make the plate.

The Pre-Cronak treatment itself has been simplified and speeded up. The original treatment had two drawbacks: (1.) the plate had to be dried after it was treated, and (2.) it had to be scrubbed thoroughly with cotton before use to remove the brown powder that formed when the plate was dried.

It is still true that drying the newly formed Cronak film on the plate will give the best possible results. But, LTF has found that the improvement is not enough to warrant the extra time. The Foundation now recommends the Pre-Cronak treatment be used during plate-making without drying the plate. Also, a simple rub with cotton while the plate is still wet eliminates the need to scrub the plate to remove the brown powder that forms when the plate is dried.

Preparation of the Plate

The revised instructions are as follows: (1.) Rub the grained plate thoroughly


- CALENDAR ···· 1753 - 2059 -
To use
Go down column to first three digits of year,
then across to column of fourth digit,
and obtain Year Type Letter.
Then find month,
go straight across to Year Type Letter,
then down to calendar
Example
July 4, 1776
Year Type H
Day of week Thursday
Copyright 1952
Arthur A. Merrill

Calendar Extends From 1753 to 2059—The perpetual calendar shown above, developed by Arthur A. Merrill, a General Electric Co. engineer, extends from 1753 to 2059. By following the directions, it is possible for a person to tell the day of the week for any of 112,129 days included in this period of time. For example, to find the day the Declaration of Independence was signed (July 4, 1776), proceed as follows: start with the left hand table and go down the left column to the first three digits of the year, 177. Then go across to the column headed by the fourth digit, 6, and obtain the key letter for the year 1776, H. In the right-hand tabulation find the month July and move straight across to the year key letter, already determined to be H. Follow the chute down to the calendar which shows the calendar for the month of July in 1776. All 3,684 months of the Merrill calendar can be reduced to fit on the front and back of a wallet-sized card and still be legible.

with cotton under running water to make sure there is no mud left in the grain.

(2.) Raise the plate to let the excess water drain off.

(3.) Apply usual counter-etch solution.

(4.) After counter-etching, flush the plate thoroughly with water. Rub the plate lightly with a wad of cotton or a brush. (Don't rub the plate with a brush or cotton while the counter-etch solution is on it. Rubbing is OK when there is no acid on the plate.) Give the plate a final flush with water and let the excess water drain off.

These preliminary steps, of course, are the same as when making any plate—with or without the Cronak treatment. The actual surface treatment starts from this point with a clean, freshly counter-etched plate.

The Cronak solution may be applied in a sink, tray or horizontal whirler.

Sink Treatment

After the plate has been counter-etched, flushed, and drained, lower the rack so that the plate is horizontal. Hold wide mouth containers of the Cronak solution, one in each hand. Pour the solution from the containers onto the plate, one after the other, from opposite sides. The idea is to flood the solution over the plate so that it is completely covered as fast as possible.

Let the solution stand on the plate for 30 sec. to 1 min. Then rinse it off with a gentle stream of water. Keep rinsing the plate until the wash water becomes colorless. At this point in the original Cronak instructions, LTF formerly recommended that the plate be dried. Instead of this, it is now suggested that the surface be swabbed lightly with cotton under running water. The plate can then be put in the whirler and coated immediately. Don't touch the surface with your fingers or anything else that might be greasy or oily.

A correctly applied Cronak treatment turns the plate light tan. The longer the Cronak solution stands on the plate, the darker the color becomes.

Tray Treatment

If you are working with plates that are small enough to handle easily, you may prefer the tray method of applying Cronak. Here, you put the cleaned, freshly counter-etched plate into a tray of Cronak solution. Keep it under the solution for 30 sec. to 1 min. Then pull it out, let the excess solution drain off, and rinse it with water as before. Keep on rinsing until the wash water becomes colorless. Then swab the surface gently with cotton under running water. After this you can put the plate in the whirler and coat it immediately.

Whirler Treatment

You can also apply Cronak solution to the plate in a horizontal whirler. Clean the plate as before and put it in the whirler. Set the whirler speed at 25 to 30 r.p.m. Flood the plate with water and whirl it for about 15 sec. to throw off the excess. Then pour the Cronak solution onto the plate. Start pouring at one edge and continue across the plate to the other edge. This will prevent a dark colored hot-spot in the center that may occur if you pour from the center out to the edge.

When the plate is completely covered with the Cronak solution, stop the whirler. Let the solution stand on the plate for 30 sec. to 1 min. Then flush the plate thoroughly with water. Keep rinsing until the wash water is colorless. Stop the whirler, and gently swab the plate with cotton under running water.

Start the whirler, shut off the rinse water, let the excess water whirl off the plate, and apply the coating.

Details Available

With the exception of an alternate procedure of not having to dry the newly formed Cronak film on most plates, there is no other change in the methods of applying it. If you get a special job that requires extra quality or a very long run, LTF suggests the Pre-Cronak film be permitted to dry as required in the original instructions.

The formula and full details on both the Pre- and Post-Cronak treatments are available in LTF's Bulletin No. 802, *Plate Surface Treatments*.

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For Graphic Arts Industry

PLATEMAKING GROUP

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- **Magnesium Plates, No. PL-1.** Contains data and experience on the use of magnesium plates in the letterpress field.
- **Plates, No. CONF-1.** A report containing the proceedings of the conference on printing plates held at Battelle Institute, Columbus, O., February 1950.
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Production Economies in Pressroom

By LESLIE F. CREBASSA*

**Pressroom Supt., Seattle (Wash.) Times.*

Abstract of introductory remarks before the Pressroom Meeting of the ANPA Mechanical Conference, San Francisco, June 1952.

NEVER has it been more necessary to have cooperation among the mechanical departments in the newspaper plant. In some instances, departmental cooperation is a touchy subject. Unfortunately, some department heads feel infringed upon as soon as another department head offers a suggestion. With complex, high-speed production we must work as a team. The slightest defect in one department will magnify itself in another. Department heads must recognize the need of high-speed production with saleable reproduction, if we are to combat the many advertising media which threaten the newspaper today. As soon as departments are at ends with one another, production becomes more and more costly to management.

With joint constructive thinking, we have cut 64 working shifts per week in our color printing alone. This saving in the operation of our new color press has been brought about by the use of semi-soft packing and the joint cooperation between press and stereotype departments. Here the stereotype department plays a vital part, as a good deal of the makeready responsibility was to be assumed by this department. Although a tremendous savings was realized in the pressroom, five additional shifts were added to the stereotype department in order to pre-makeready our plates. Along with this saving, 14 shifts were saved weekly in the mailroom. Had one of us done this of our own volition, individually, it would have been put over, but with possible opposition and prejudice, and, in the end would have been more costly to achieve. In cooperating, everyone felt that he had some part in helping to develop this substantial saving.

With cooperation between departments, there is a wonderful opportunity for greater savings in the production of a daily newspaper. Working closely with the advertising department, we have achieved many new color page positions without undue loss in press production. Our newspaper, like many others, has consistently sold second impression page positions; and in our case, making bay window leads necessary four or five days per week. With such leads, we obtain three ingoing positions for color. Pages 3, 4, 5, 6, 7, 8 and lockup are all derived from our Page 1 color cylinder. By grooving rollers on our color cylinders and cutting oscillation of the ink drums to 5/8 in., four different colors can be obtained without bleeding into one another. Using the bay window leads for positioning these pages makes this color cylinder versatile. Again, with cooperation from the composing room and editorial department when there is close register on these pages, we attempt if possible, to make them standing pages for the day. To get away from re-registering these pages on every edition, we run as high as five pages of r.o.p. color per day, accomplishing this in the regular working shift hours without overtime.

By planning work and working our play, we have been able to hold pressroom costs to a minimum. Re-running of ads due to improper printing or positioning has been eliminated, which has saved valuable time and newsprint.

Preventive Maintenance

Preventive maintenance is a challenge we have to recognize due to government curtailment of vital metals, rubber, cork, anything necessary in the operation of a newspaper—although, recently there has been some relaxation in the use of these materials by civilian economy. Preventive maintenance should be second nature in the operation of any pressroom. It is just as vital as an edition of a daily newspaper, whether under war-time conditions or otherwise. We cannot replace parts as readily as we have in the past. Therefore, we should look past our daily thought of maintenance and move into the long range wearing parts of pressroom equipment, such as, worn clips, clip-ways, key-ways, etc., by regular inspection, repair or maintenance.

Lubrication

Proper lubrication is another vital point. Correct lubrication should be used regardless of price, as oil and grease are good insurance against maintenance problems.

New Ideas—New Devices

Again, preventive maintenance in many instances consists of the adoption of new ideas and new devices. For instance, on bearings for rollers—form rollers, intermediates, and transfer rollers, in our own case we have changed to a different type bearing, having one more ball than the manufacturers' standard equipment, and to date have not had a failure from this new bearing.

Another experiment we have made is with cheek-woods in the folder cutting knives. We have gone from fiber cheek-woods to a Dural aluminum alloy which is very light. We have found that it is successful with the use of coil springs. In the leaf type spring the two points of contact wear the Dural and eventually break the spring. We have been running these for over six months and have as yet to replace the cheek-woods, although we have replaced some springs. These are the type of thoughts, which we call ideas, that tend to alleviate the preventive maintenance problem in the operation of pressrooms.

Flint Provides Fellowship

Establishment of the Howard Flint Fellowship for graduate work in printing ink technology at Lehigh University was announced recently by Dr. Albert C. Zettlemoyer, Director of the National Printing Ink Research Institute. Provided by the Flint Ink Co. in honor of Howard Flint, founder of the firm, the fellowship includes a stipend and tuition to the recipient and is valued at $2500. At the same time, the Institute, a division of the Lehigh University Institute of Research, named Thomas A. Sparta, a graduate of Lafayette College, as the first recipient of the Howard Flint Fellowship.

Hewson Representatives

The John Hewson Co. has announced the appointment of five additional representatives to handle the sales, field application and servicing of Takk high speed static control systems, high voltage insulation test sets and power supplies, and Staticator electronic static detection and warning installations. The distributors are as follows: Cooper-Morgan Inc., P. O. Box 152, Hamburg, N. Y.; Naylor Electric Co., State Tower Bldg., Syracuse 2, N. Y.; Rittenhouse & McGuire Co., 311 Alexander St., Rochester 4, N. Y.; W. J. Keller, 415 Natchez St., New Orleans, La.; and E. A. Thornwell, Inc., 217 Whitehall St., S. W., Atlanta, Ga.

Need More Engineers and Research Specialists

(Abstract from address delivered before Intl. Graphic Arts Education Assoc. Conference on Printing Education, Madison, Wis., July 1952, by Arthur A. Wetzel, President, Printing Industry of America.)

IF WE are to continue to advance the industry's technology toward the end of producing a better product more economically, we are going to need more engineers and research specialists. Even our craftsmen, to fit into the new technology, must be more scientific minded, must have a working knowledge of several sciences as they apply to graphic arts operations.

Research, a comparatively new concept in our industry, is now recognized as essential to continuing progress. The Research and Engineering Council of the Graphic Arts Industry, supported by all branches of the Graphic Arts Industry, supported by all branches of the graphic arts, including the equipment and supply field, is engaged in a program of correlating and disseminating information about hundreds of research projects, and is stimulating and encouraging still further efforts to advance the industry's technology.

Unusual Plant Layout Problem

AN interesting problem in plant layout was encountered recently by Robert Royden Greer, Los Angeles Printing Engineer. In this instance, the Temple City (Calif.) *Times* combination newspaper and job printing plant was to be modernized while operating in present quarters. The structure is in a desirable business location and consists of three connected buildings comprising an overall ground area of 25 ft. by 134 ft. 8 in. The rectangle formed by the building, of course, was not ideal in size or shape but that was it, thus making the space limitations arbitrary.

At first, removal of the supporting structural partitions was considered. But after some study of the subject it was decided to leave them alone because of the liability of roof and/or building collapse. In any event, it was evident that even if the walls were removed additional floor space would not be secured.

In planning the layout, Mr. Greer said he felt as though he were using a shoe horn to place the offices and equipment in proper sequence. However, the new layout met with the hearty approval of General Mgr. Ralph H. Turner.

Mr. Greer remarked that 75% of all newspaper plants in the United States are of the smaller variety. Some of the smaller plants are slow to capitalize upon new methods and equipment. Yet the foresight of the management of the Temple City *Times* is indicated by the installation of Teletype-setter and Scan-a-graver equipment. These installations are reported to be paying their way.

It will be apparent that no room for growth is provided in the present structure. Tentative plans have been considered for an addition at right angles to the rear of the present building. The plant is illuminated with fluorescent lighting.

In analyzing the arbitrary limits of the floor space, it appears that the establishment of the 4 ft. aisle through the center of the plant is highly desirable. It permits traffic from the business office to the composing and job printing departments. The composing room is right next to the business office for quick communication with the advertising department office. Since both the job printing press and bindery departments and the newspaper press both could not be located at the rear end of the building, a decision was made to locate the press there. The reason, of course, is that the ponderous newsprint rolls need only be brought just inside the building by Monorail carrier and then shifted as needed to the press roll spindle. The press location, too, permits shortest travel to mailing bench and to carrier boys.

Printing is an art which preserves all other arts for mankind. Remember—Printing Week, January 11-17.

Combination Newspaper and Job Printing Plant — Temple City (Calif.) *Times*

In this combination newspaper and job printing plant business and production layout there are five general areas indicated in the diagram as follows:

(A)—Business and Editorial
(B)—Composing Room
(C)—Stereotype Room
(D)—Job Printing Dept.
(E)—Bindery Dept.
(F)—Newspaper Press Dept.

Business and Editorial

1.—Lobby
2.—Business Office
3.—Publisher's Office
4.—Accounting
5.—Display Advertising Dept.
6.—Editorial Offices
7.—Women's Toilet
8.—Clothes Locker

Composing Room:

9.—Teletypesetter Perforating
10.—Roll Storage for Teletypesetter
11.—Teletypesetter-operated Model B Intertype
12.—Display Intertype
13.—Magazine Rack
14.—Bank with Galley Storage Underneath
15.—Proof Press
16.—Work Top and Machinist's Bench
17.—Cast-strip Storage
18.—Elrod Strip Caster
19.—Superintendent's Desk
20.—Markup and Layout Table with Shelving Overhead
21.—Fairchild Scan-A-Graver
22.—Makeup Bank
23.—Page Truck
24.—Flat Top with Galley Storage Below
25.—Saw-trimmer
26.—Chip Carrier
27.—Makeup Cabinet and Type
28.—Double Type Cabinet with Worktop
29.—Strip Material Cabinet
30.—Mitering Machine
31.—Large Proof Press
32.—100-Galley Storage
33.—Type Cabinets

Stereotype Dept.:

34.—Drinking Fountain
35.—Sink
36.—Men's Toilets
37.—Ship Ladder to Mezzanine
38.—Nolan Router
39.—Stereo Work Table with Mats Below
40.—Casting Box with Metal Pot Attached
41.—Stereotype Saw
42.—Pig Molds on Pouring Table
43.—Gas Metal Pot
44.—Mat Scorcher

Job Printing Dept.:

45.—8 in. by 12 in. Chandler & Price Press
46.—10 in. by 15 in. Rice Unit Press
47.—36 in. by 72 in. Steel Table
48.—Table
49.—32 in. Diamond Paper Cutter
50.—Steel Shelving Units

Bindery Dept.:

51.—Paper Drill
52.—Table on Casters
53.—Stitcher
54.—Steel Shelving

Newspaper Press Dept.:

55.—Foreman's Desk
56.—Ink Drum
57.—Press Rollers
58.—Coxotype Web Press
59.—Rolling Truck
60.—Mailing and Distribution Table
61.—Routing
62.—Newsprint Supply. While rolls are shown standing on end, it has been decided to store them flat with planking between each tier.
63.—Monorail with Yale & Towne 2 T. block on trolley and adjustable spreader bar to permit handling three widths of newsprint rolls.

MODERN Photoengraving

by Louis Flader and J. S. Mertle

TEXT prepared for those in need of technical information. Especially suitable to printing's production and mechanical executive. Included are a glossary defining 775 trade terms; 18 chapters (each dealing with a branch of photoengraving); 47 Tables of Data; 392 illustrations; 206 Chemical and Mathematical Formulas Tables of Weights, Measures and Conversions, Process Hygiene, and 21 pages of Index.

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PRINTING EQUIPMENT *Engineer*

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Offset Duplicator Techniques

Original edition by Richard Caruzzi. Edited and revised by Fred W. Hoch and Carl B. Harris

THE 96 pages of this manual contain 539 items of index information on offset duplicator techniques. Of the 17 chapters, special attention has been given to the revision of those pertaining to photography, chemistry, plates and platemaking, type and typesetting, and preparation of copy. New methods, materials and machines now used have been added to bring the book up to date. More than 100 illustrations accompany the text in explaining the different procedures.

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PRINTING EQUIPMENT *Engineer*

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Goodyear Moves Department

E. R. Coate, Manager of Printers' Supplies Sales Dept., Goodyear Tire & Rubber Co., has announced that the offices of the sales department has been moved from the company's Akron, O., plant to the Goodyear plant in New Bedford, Mass. The move was made to bring about closer coordination of sales, development and production of materials manufactured for the Graphic Arts industry, Coate reported.

Private Plants Booklets

The problem of private printing plants being used as a solution to purchasing printing is discussed in a 24 page booklet published by the Graphic Arts Trade Assoc. Executives, according to its President Henry Henneberg, who is also General Mgr. of the Los Angeles PIA. Titled *Is Your Printing Department Paying Its Way?*, it is authored by Irving D. Robbins. Prices of the booklet are as follows: $1 ea. for 1 to 9 copies; 90c ea. for 10 to 24 copies; 75c ea. for 25 to 49 copies; 60c ea. for 50 to 99 copies; and 50c ea. for 100 copies or more. They may be ordered from William C. Boles, Executive Secy., Printing Industry of Nashville, Inc., 1514 South St., Nashville 2, Tenn.

Also available through Mr. Boles at the same price schedule is the booklet *Shall We Install Our Own Printing Plant?* written by Robbins. In this booklet the author discusses questions management should ask itself before establishing private printing plants.

Machine Tool Catalog

DESCRIPTIONS, illustrations and specifications of South Bend lathes, shapers and drill presses are included in South Bend Lathe Works latest 88 page general catalog, No. 5205. Attachments, chucks, tools and accessories are also shown. The catalog contains the firm's recent machine tool developments among which is a pedestal tool grinder. When requesting a copy of this catalog, please mention PEE No. 440 in your letter to *Printing Equipment Engineer*.

Chicago Purchase

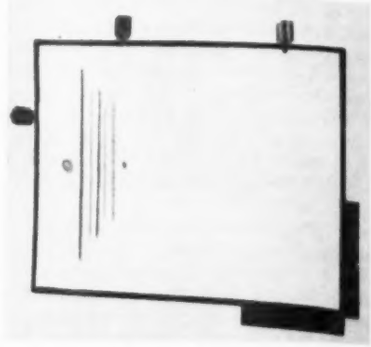
It is expected that the Midwest edition of the *Wall Street Journal* will be published from a recently purchased building located at 711 W. Monroe St. in Chicago by the first of next year. This was revealed in an announcement by Bernard Kilgore, President of Dow Jones & Co., Inc., publishers of the *Journal*. The building, comprising 60 thousand sq. ft., will be remodeled to house the newspaper plant. The *Journal* will continue printing in its present W. Washington Blvd. quarters until new printing equipment is installed at the W. Monroe St. location.

International Printing Week, January 11 through 17, serves as a reminder that printing is a recorder of progress.

Time-Saving Tip

Register Assist

THE problem of sheets bounding away from the gauge pins on a platen press is encountered from time to time by a pressman during the hand feeding operation. A simple method of eliminating this is shown in the accompanying illustration. The register assist is comprised of two pieces of reglet glued on the upper section of the tympan and positioned $^1/_{16}$ in. from the upper right hand corner of the sheet when it is in proper register position on the platen. During the forward movement of the platen and while the impression is being taken, the reglets serve to prevent the sheet from moving away from the front and side guides.—Reported by Herbert Ahrendt, Vice Pres., Ahrendt, Inc., New York, N. Y., before Cleveland Craftsmen's Club.



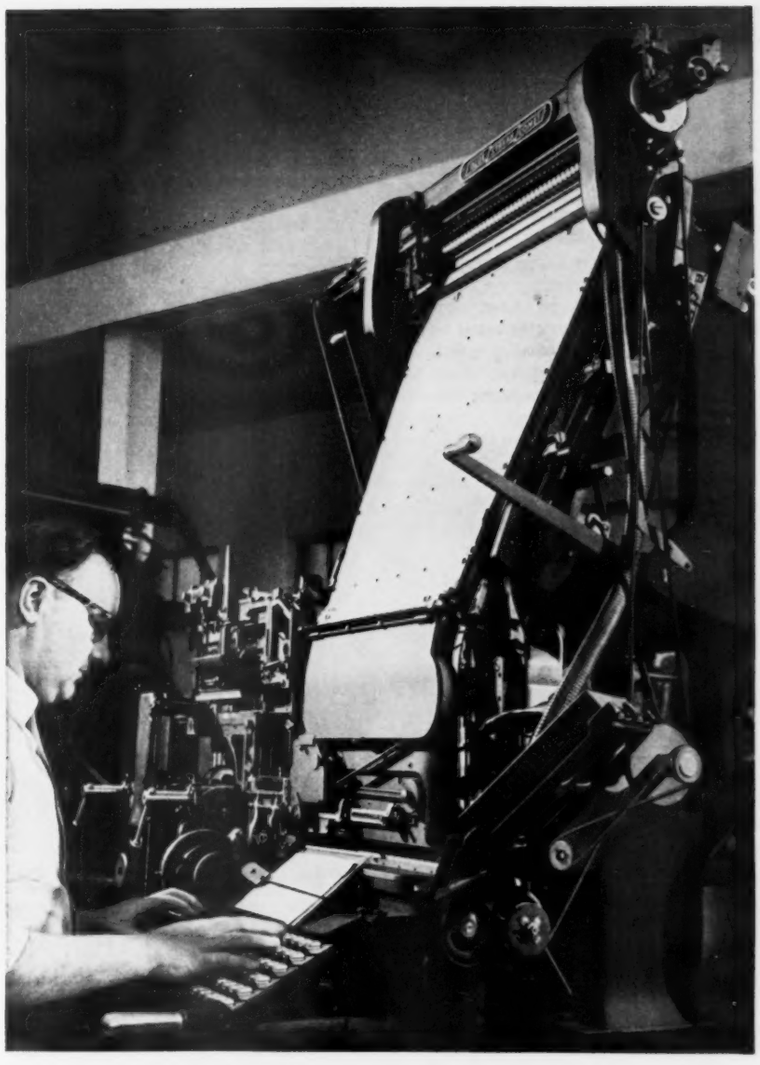
The first typesetting machine was used in 1886. Since that time printing has made rapid strides in development and improvement. Printing Week, January 11 through 17, commemorates the art of printing.

Down Copies

By JOHN T. WRIGLEY*

*Photo-Process Engraving Co., Atlanta, Ga. Abstracted from address delivered before Southwestern Photoengravers Assoc., Little Rock, Ark., January 1952.

IN layout work in black and white or color, many extra negatives and hours of stripping and finishing may be saved by the use of "down" copies. This is a name for an accurate layout on drawing board or card stock, on which black spots, type and reduced photographic prints of the insert copy are cemented down. These photo prints of everything, reduced to proper size, and cemented to the down copy, enable us to make as much of the job in one negative as possible and see beforehand how things will fit and look.



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Heavy Book Was Printed In Versatile Plant

THERE are a great many commercial printing plants in the United States which cannot by any stretch of the imagination be considered specialty printers. This is the case of the St. Petersburg (Fla.) Printing Co., of which General Mgr. Ben Granger is one of our favorite printing executives.

Our purpose in making this comment is to state that just recently we received a copy of *Akron and Summit County* by Karl H. Grismer. The book consists of 834 pages and weighs approx. 4½ lbs. The St. Petersburg Printing Co. does any kind of printing by letterpress. Its work ranges from a business card to telephone directories with hard bound books, business statements, promotional literature and catalogs (some of it in color process work) interspersed among little and biggest jobs.

We want to comment upon the mechanical appearance of the book. Granger tells us that at the insistence of the author some of the chapter headings start on a left hand page "in order to save paper." Some criticism may be offered respecting the "tight" headings throughout the book, but we can't see that snug typographic design mars the appearance of the chapter pages in any way. In fact, referring to sub-headings sprinkled in the text throughout the book, we feel that they stand out sufficiently to direct the eye but do not cause the reader any discomfort.

The text is set in 12 pt. roman with 8 pt. footnotes. Page dimensions are 30 picas wide by 47 picas deep. It is surprising, considering the line width, how easily readable is the text matter in the book. We are also impressed with the even color of the pages throughout the book. This alone is a pressroom accomplishment.

While we have no wish to compare Southern printing with Northern printing as such, we do want to comment that the craftsmanship on this book is the equal of the best we have seen produced anywhere in the country.

Someone once said that book jackets are designed to cover up inside imperfections. The jacket on *Akron and Summit County* isn't any better printing quality than is to be found in the book itself, but it is a very attractive jacket. It's done in two shades of green ink on yellow paper.

Win Top Awards

The Journalism Laboratory Press o Washington and Lee University, Lexington, Va., and its Director, C. Harold Lauck, were awarded top honors in the recent Bibliographical Society's printers' contest. The awards were given the Journalism Laboratory Press for the printing of a bookplate and educational pamphlet. It marked the second year that the W&L press has captured the top awards. Lauck took first place in private press printing for his printing of *The Vision of the Prophet Habakkuk*. The contest was held by the Bibliographical Society of the University of Virginia with the object of recognizing the best printing being done in the State of Virginia.

Installs Miehle 29 Offset Press—The combination letterpress-offset plant of the F. M. Strickland Printing & Stationery Co., St. Louis, recently installed the Miehle 29 Offset Press shown above. The firm produces general advertising and commercial printing. Examining the press, from left to right, are: Jerry Buss, Pressman; C. H. Fein, President; J. A. Vogt, Production Mgr., all of the Strickland company; and Ralph Kleinschmidt, Miehle Representative.

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Patents

For The GRAPHIC ARTS

Covering patents issued August 5, August 12, August 19 and August 26.

All new patents for the Graphic Arts are reported exclusively for Printing Equipment Engineer by Invention, Inc., an industrial patent research organization in Washington, D. C. Invention, Inc., presently has the only staff in the country that examines, in the U. S. Patent Office, the complete printed copy, drawing by drawing and page by page, every one of the several hundred new patents issued each week. Printing Equipment Engineer is the only trade publication in its field offering a report based on this complete coverage. For copies of the patents listed here specify the patent numbers and send 25c for each separate patent, or 10c for each trade mark or design patent (stamps not accepted) to the Commissioner of Patents, Washington, D. C.

Binding, Cutting, Perforating:

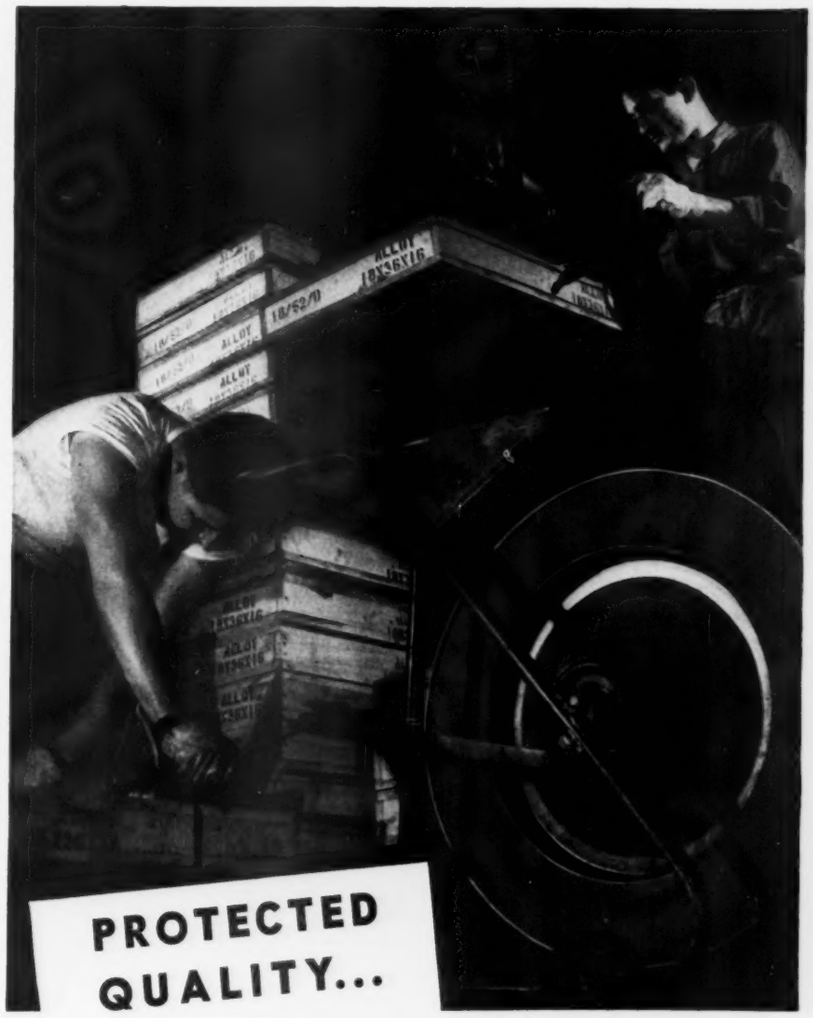
2,605,739. MACHINE FOR APPLYING ADHESIVE TO THE BINDING EDGES OF BOOKS. Machine operates in conjunction with a conveyor and clamps for the books. It includes an applicator roll having riffling ribs which is partly immersed in latex and applies latex to the books. A doctor blade removes excess fluid. A second applicator roller is preferably driven at a greater speed than that of the conveyor. It is also partly immersed in latex. A doctor blade is set to retain a relatively thick layer of latex on this roller. At a point just beyond the point of tangency of the roller with the plane of travel, a small rod is mounted in contact with second roller. This rod wipes up the latex and causes it to form a waterfall and the rod and roller are adjusted so that the binding edges pass through the adhesive on top of the waterfall but do not touch rod or rollers. This permits a heavy uniform coating. Invented by Peter de Florez, Pomfret, Conn. Assigned, by mesne assignments, to The de Florez Company, Inc., New York, N. Y. Application August 26, 1947. 10. Claims.

2,605,837. MACHINE FOR NOTCHING SIGNATURES. The machine comprises clamps for receiving and holding the signatures one at a time in the notching operation, stops or guides for determining the exact position to which the signatures are fed, shearing means for forming the notches in the folded edges of the signatures, and means for removing the signatures after notching. The method involved may be performed between the usual operations of folding and gathering. Invented by Alfred Cahen, Cleveland, O. Unassigned. Application August 2, 1948. 1 Claim.

2,607,587. BOOK STITCHING AND DELIVERING MACHINE is adapted for one-up and two-up work, and, if necessary, three-up and four-up. Wire stapled signatures rest on a saddle and are discharged by a tucker blade to a supporting apron. A pawl and ratchet mechanism intermittently advance the apron a short distance upon discharge of a book. Another such mechanism periodically advances the apron a greater distance so that the books are in spaced groups. A feeler is positioned to feel for a book on the saddle and controls arresting operations of the tucker blade and both pawl and ratchet mechanisms. The tucker blade may be held inoperative during certain cycles of the machine for books that require more than one cycle for stitching. Invented by Elmer W. Belluche, Racine, Wis. Assigned to the Christensen Machine Co., Racine, Wis. Application August 3, 1949. 7 Claims.

2,607,614. BOOK AND BOOKBINDING. This invention relates particularly to binding books with plastic covers. A flexible electrode is applied about the back of a filler and subjected to high frequency heat. A thermoplastic cover is then applied with parts adjacent the electrode. The cover is attached to the electrode and filler by electrically nonconductive fastening means. High frequency current is passed from side to side of the book in areas covered by the electrode. Invented by Guy B. Wiser, Los Angeles, Calif. Assigned to Marador Corp., Glendale, Calif. Application April 27, 1948. 8 Claims.

2,608,254. PAPER CUTTING MACHINE. Apparatus is for effecting proper control of the knife bar and knife of a cutting machine so as to prevent bending and bowing of the bar and knife during operation. In the apparatus, the paper clamp has a flat vertical bearing surface on the side adjacent and parallel to the knife bar and knife. The bar has an opening therethrough opposed to the surface and a flat headed screw threaded in the opening with the head opposed to and adapted to engage the surface. A set screw locks the flat headed screw in adjusted posi-



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tion. The surface is dimensioned to engage the flat headed screw during the cutting stroke and to reinforce the knife and bar against deflection. Invented by Frederick D. McLaughlin, Shaker Heights, O. Assigned to The Chandler & Price Co., Cleveland, O. Application December 13, 1949. 4 Claims.

Composing Room:

2,605,888. MAGAZINE COUNTERBALANCING MECHANISM. A typographical composing machine comprises a plurality of magazines adjustable columnwise to bring a selected magazine into operative position. A rotatable unit has a plurality of circular members of different diameters. The weight of the magazines is applied to the members of small diameter and counterbalancing force to larger members. Thus the opposing moments exerted about the center of the unit are at all times equal. The angle of inclination of the magazine column remains constant during adjustment by engagement with an extension of the magazine-supporting frame, but may be changed by altering the position of the rotatable unit. Invented by Richard H. Scott, Hale, and Arthur S. Hayward, Altrincham, Eng. Assigned to Linotype and Machinery, Limited, London, Eng. Application September 18, 1947; in Great Britain Sept. 28, 1946. 7 Claims.

2,606,649. TYPOGRAPHIC MOLD is of the type in which slugs or spacings may be cast from molten metal. Sticking of the slug, i.e., curving or bowing of the mold cavity walls, is prevented by tapered point blocks which, when tightly clamped in the cheek pieces, will result in a mold having perfectly straight tapered walls which permit free ejection of the slug. Transverse channels along the cheek pieces and along the bottom surface of the mold provide for the passage of oil from top to bottom of the mold. Invented by Maurice H. Hartzell, Chester, Pa. Unassigned. Application June 9, 1948. 9 Claims.

2,607,473. DUPLEX RAIL ASSEMBLY FOR LINECASTING MACHINES. This invention relates to improvements in the matrix supporting rail structure. An assembling elevator includes a frame having a lowermost matrix receiving rail and an uppermost face with a cavity. A bar secured to the frame is spaced above the face. An elongated plate beneath the bar is shiftable in the cavity on its transverse axis only. An upper matrix-receiving rail is mounted for reciprocable movement relative to and on its longitudinal axis between the bar and plate. Resilient means in the cavity bear against the plate for yieldably holding it at either end of its travel on its transverse axis. This controls shifting of the upper rail along the same axis. Invented by Thomas F. Ellis, Topeka, Kan. Unassigned. Application September 19, 1949. 3 Claims.

Feeding, Folding, Delivery:

2,607,589. SHEET POSITIONING ATTACHMENT. For use in feeding light weight papers to platen presses, transversely spaced movable suction nozzles move in unison with transversely spaced fingers on a feeding mechanism for transferring sheets one at a time from a magazine to a platen. The fingers may be adjusted in position relative to the nozzles and maintained in a fixed position. The fingers comprise flexible members and pivotal mountings for same with the length of the fingers being adjustable. Invented by Richard E. Wilburn, Leavenworth, Kan. Unassigned. Application April 19, 1948. 8 Claims.

2,608,408. SHEET FEEDING MECHANISM. The invention relates to a device for cutting, feeding and registering sheets for delivery in separated columns. A driven belt receives cards from a cutting mechanism at one end of a conveyor on the upper reach. Each card is horizontal when received and is advanced in a progressively and increasingly inclined position. Guiding means for each column of cards are positioned on the upper reaches of the belts and are spaced farther apart at the exit end than at the receiving end. A plurality of rotary elements above each belt are adapted to engage the cards on the upper reaches. Invented by George A. Gibson, jr., New York, N. Y. Unassigned. Application January 15, 1949. 9 Claims.

Printing Inks:

2,606,123. PRINTING INK. This invention relates to the dispersion of a coloring matter such as benzidine yellow, carbon black, or Prussian blue in

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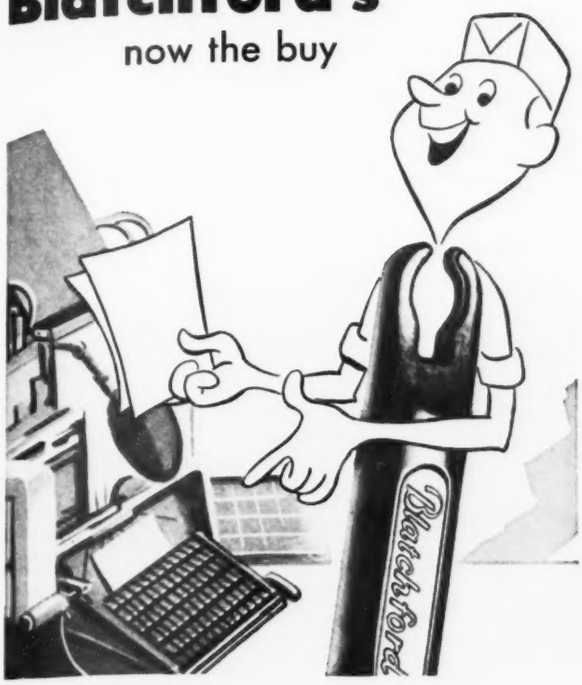

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a vehicle of a protein binder, a resin binder, a protein peptizing agent and an anhydrous hygroscopic liquid. The protein binder consists of a dry anhydrous non-prolamine protein having a high water tolerance and being dispersible in ethylene diamine. Thus the ink has a high humidity and water tolerance and is readily settable on exposure to steam. Invented by Alfred F. Schmutzler, Teaneck, N. J., and Donald F. Othmer, Coudersport, Pa. Unassigned. Application September 26, 1950. 12 Claims.

2,606,124. PRINTING INK. Coloring matter such as chrome yellow, Prussian blue, etc., may be dispersed in a vehicle consisting of a protein binder, a resin binder, a protein peptizing agent and a polyhydric alcohol having 2 to 3 hydroxy groups and 2 to 8 carbon atoms. An anhydrous non-prolamine protein having a high water tolerance is used, preferably a vegetable protein or a mixture of at least 30 percent vegetable and the remainder animal protein. An additional decrease of water sensitivity is obtained by the use of glycol soluble resins. The ink is readily settable on exposure to steam. Invented by Alfred F. Schmutzler, Teaneck, N. J., and Donald F. Othmer, Coudersport, Pa. Unassigned. Application September 26, 1950. 8 Claims.

Platemaking:

2,607,683. A PHOTOLITHOGRAPHIC PRINTING PLATE is made by a direct-positive process. An esterified cellulose acetate support is coated with a gelatin such as gum arabic containing silver halide and an aqueous dispersion of 3 to 15 parts of a polyethyl acrylate resin per part gelatin. This sensitive layer is exposed to light under an image, developed in a tanning developer, and treated with hot water to swell the colloid in the exposed regions and to remove the gelatin from unexposed regions without removing the resin. The layer is then treated with an alcoholic alkali hydrolyzing solution. The gelatin and resin are then removed from the support. Invented by Edward C. Yackel and Charles F. Amering, Rochester, N. Y. Assigned to Eastman Kodak Co., Rochester, N. Y. Application August 18, 1949. 5 Claims.

Printing Presses and Equipment:

2,605,701. CYLINDER MOUNTING MEANS FOR ROTARY PRINTING APPARATUS. This invention relates to modifications of and is a continuation of patent No. 2,557,381, to Huebner, which discloses apparatus for printing electronographically or in the usual manner. The present invention provides means for mounting cylindrical shells or rolls which are engaged and rotatably mounted in the press by end members, one of which is axially movable to facilitate removal of the said rolls. Invented by William C. Huebner, New York, N. Y. Unassigned. Application August 9, 1949. 10 Claims.

2,606,238. ROLL WEB INDICATING MECHANISM FOR NEWSPAPER PRINTING PRESSES. This invention is for indicating the remaining running capacity of each web of a newspaper installation on a panel remotely located with relation to the webs. The panel is arranged in a plurality of individually separated series, each series being associated with one of the supply units and having each element corresponding to an element of every other series and arranged near same. Each series is properly identified and an actuator, including a measuring device, is associated with each web unit so as to constantly measure the diameter of a running web supply roll. The actuator is responsive to an uneven surface of the running web so that by means of switches and circuits an indication may be made on the panel in response to an uneven diameter of a roll. Invented by Arnold L. Imshaug, West Springfield, Mass. Assigned to Alico, Inc., West Springfield, Mass. Application January 22, 1949. 2 Claims.

2,606,492. SILK SCREEN STENCILING MACHINE has a frame with a drum mounted thereon for reciprocating rotary movement about a horizontal axis. A stencil is mounted on the frame, adjacent to the drum, for reciprocating horizontal rotary movement in coordination with the drum rotary motion whereby a portion of the stencil is always in registry with the corresponding portion of the exterior stock-supporting surface of the drum. The leading edge of a stock sheet is fed to the drum at the beginning of the drum's movement in one direction and a suction effects adherence of the sheet to the drum in the area of registry between stencil and drum. The coating is forced through the stencil onto the sheet as the sheet passes the stencil. Invented by James A. Black,

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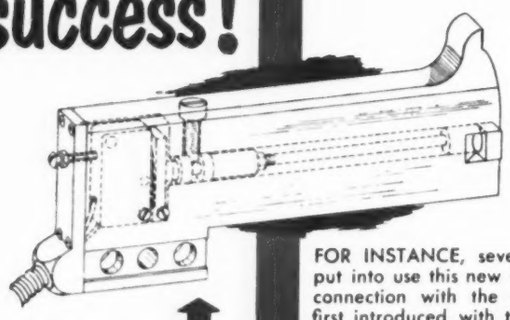

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Kent, Mich. Unassigned. Application June 12, 1938. 7 Claims.

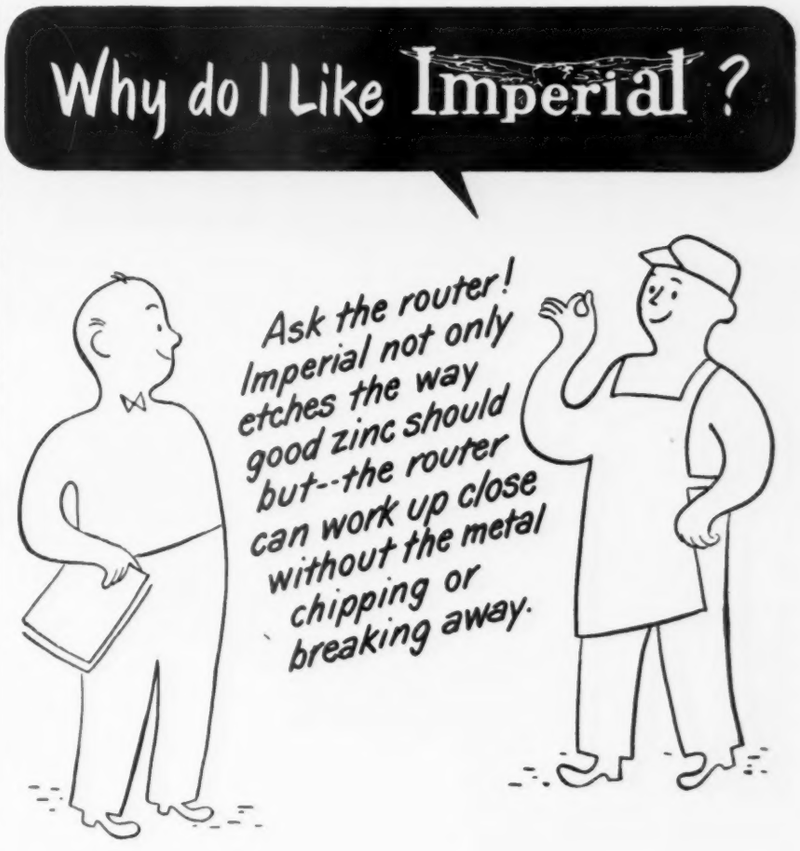
2,606,493. ROTARY PRINTING MACHINE EMPLOYING CYLINDERS OF VARIOUS DIAMETERS comprises a frame with side members. A driving clutch is rotatably mounted on one of the side members. A printing cylinder of predetermined size is replaceably mounted in the frame and has a clutch at one end and a driving pinion of equal diameter at the opposite end. Cooperating inking and impression roll mechanisms are mounted in the frame and move to and from the surface of the printing roll. A driven gear, for each of the platen and inking roll mechanisms and movable therewith, is brought into mesh engagement with the driving pinion on the printing cylinder when the mechanisms are adjusted for engagement with the cylinder surface. Machine is particularly for printing labels, circulars, etc., of varying size on a web in one or in multiple colors. Invented by John Haspert, Tampa, Fla. Unassigned. Application February 8, 1946. 8 Claims.

2,607,291. DAMPENING ROLLER REMOVAL AND INSERTION MECHANISM. The mechanism, for use on offset presses, comprises a supporting arm for the lower dampening roller, equipped with a track-way and latch. The parts are arranged so that the roller may be inserted in its socket by supporting the bearing of the roller on the track-way and rolling the roller toward the socket and of the support arm. The latch is opened when the bearings are inserted in their respective sockets and automatically returns to a locked position to lock the bearings in place since the insertion forces a spring rod to yield, biasing the latch in a locked position. Invented by Arthur G. Jacobson, Chicago, Ill. Assigned, by mesne assignments, to Miehle Printing Press & Mfg. Co., Chicago, Ill. Application May 20, 1947. 7 Claims.

2,607,292. ROTOGRAVURE IMPRESSION MECHANISM. The mechanism for a rotary intaglio printing unit comprising pressure, impression and printing cylinders, has in combination a first drive for rapidly lowering the pressure cylinder toward a printing position and a second drive for slowly lowering the pressure cylinder to obtain a required printing pressure. A control, responsive to the decrease in distance between the axis of the impression cylinder and the pressure cylinder, shuts off the first drive and cuts in the second drive at a predetermined point in the downward movement of the pressure cylinder, automatically maintaining any desired pressure during operation of the machine. Invented by Charles A. Harless, Riverside, Conn., and William C. Wieking, Woodhaven, N. Y. Assigned to the R. Hoe & Co., Inc., New York, N. Y. Application May 29, 1948. 24 Claims.

2,607,315. CONTROL MEANS FOR INK FOUNTAINS. The control, for mounting on a fountain-blade-adjusting key screw of a printing press, comprises a micrometric calibrated unit secured to the screw for rotation therewith and a tab mounted on the unit for relative rotation therebetween coaxial with the screw. The tab has a face bearing an index for the calibrated unit and insignia for distinguishing it from other controls. A portion rearward of the face of the tab connects to a transverse anchor which secures the tab against rotation with the calibrated unit. Manipulation of the control unit permits individual adjustment of the fountain roller and blade gap. Invented by Herbert R. Leedy and Frank A. Myers, Cleveland, O. Assigned to Aids Development Co., Inc., Cleveland, O. Application March 29, 1951. 5 Claims.

2,608,155. PRINTING MACHINE FOR SHOW CARDS. For printing advertising cards, and the like, in a machine where type members face upwardly in horizontal alignment, a type holder comprises a type-supporting bar the top of which has a series of meeting notches with inwardly and downwardly inclined sides. At least one type member is mounted on the bar with clamps tiltably mounted on each side by means of a ring structure enclosing the bar. The clamps have upwardly extending arms and engage the type member by inwardly extending compression springs. The ring structure


Why do I Like Imperial ?
Ask the router! Imperial not only etches the way good zinc should but--the router can work up close without the metal chipping or breaking away.

With Imperial Register-Redibak
both etcher and router are pleased
with the final result.

Imperial Zinc
A Product of
IMPERIAL TYPE METAL COMPANY
SERVING THE GRAPHIC ARTS Exclusively
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In Canada: LATIMER, LIMITED, TORONTO 2B

provides a transverse upper neck extending the width of the sides of the notches. Invented by Arthur K. Kohlbusch, Grayslake, Ill. Assigned to Showcard Machine Co., Chicago, Ill. Application April 8, 1948. 1 Claim.

EXECUTIVE Ⓘs

Several changes of personnel have been announced by Byron G. Culver, Supervisor in the Dept. of Publishing and Printing of the Rochester Institute of Technology. David M. Cumming, instructor in general offset and layout and stripping, has left the department after 3 yrs. of teaching. Raymond J. Richards, offset platemaking instructor, ended his teaching with 4 yrs. of service at the Institute. George M. Williams, formerly with the Graphic Arts Research Div. of the Institute, will serve in the Offset Dept. this fall. A 1952 graduate, James A. Woolsey, has been granted a temporary appointment as a graduate assistant in the offset lithography area.

G. L. Erikson, Vice Pres. of Braden-Sutphin Ink Co., Cleveland, was guest speaker at a recent meeting of the Chicago Club of Printing House Craftsmen. Erikson's talk on color included demonstrations of color harmony, color association and eye fatigue caused by color. Also on the program was Walter Granville, Head of the Color Research Dept., Container Corp. of America, who explained the Ostwald color chart system.

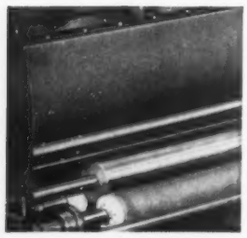
Bert S. Cross (left) has been named General Mgr. of the newly formed Reflective, Printing and Duplication Products Divs. of Minnesota Mining & Mfg. Co. Cross, who has been associated with MMM for 26 years, is also a Vice Pres. Previously he was in charge of the Reflective Products Div. Succeeding Cross as General Mgr. of the Reflective Products Div. is Harry Heltzer (right). Heltzer joined MMM in 1933 as an inspector in the Abrasives Div. His most recent assignment has been production manager for reflective products.

Appointment of Kenneth B. Murphy as Sales Supervisor for printing products in the Midwestern region was announced recently by Minnesota Mining & Mfg. Co. Murphy has been with MMM since 1944. His most recent assignment was printing salesman with headquarters in St. Louis. In his new assignment he will make his office in Chicago. He replaces E. F. Bovermann who has been named Sales Mgr. for MMM's duplication products.

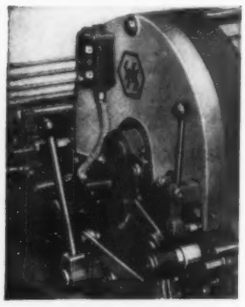
Ray G. Burgoon, Linotype production engineer for the past 12 years, has been named Sales Mgr. of the Los Angeles office of Mergenthaler Linotype Co., according to announcement by Harry W. Porte, Vice Pres. in Charge of Sales. Linotype's Los Angeles office covers the area comprised of southern California, Arizona, New Mexico, southern Nevada and Utah, and a portion of western Texas. Burgoon served his apprenticeship on the Chillicothe (O.) *Gazette*. He also served in the composing room of the Ohio State University Press, Columbus, O., which position he held until joining Linotype in 1940. As a production engineer with Mergenthaler, Burgoon covered southern Ohio and Northern Kentucky. He was a member of the Columbus Craftsmen's Club for many years.

Proofing? Short runs? Specialty printing?
You can do all three with

S&S Du-Fa Flatbed Offset Press



Large Cylinder



Centralized Controls

- Has complete automatic inking and dampening system.
- Duplicates press conditions for fast, high-quality proofing.
- Cuts costs on short run printing.
- Prints on metal, plastic, glass, wood.

Completely power operated, with automatic inking and dampening, the S&S Du-Fa can duplicate press conditions for proofing with amazing exactitude. Check its cylinder, its larger than average inking rollers with other presses and you'll see why.

S&S Du-Fa also features an adjustable bed for specialty printing on metal, plastic, glass, wood!

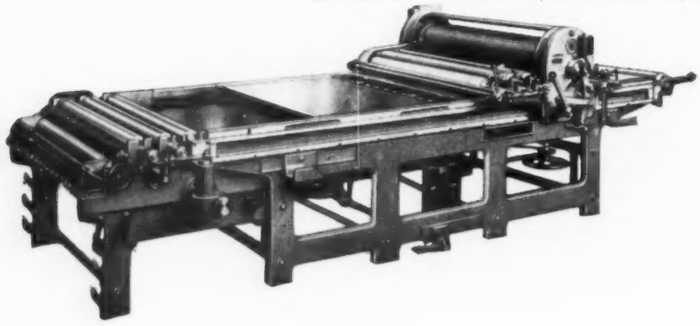
Easy to operate, with centralized controls, the S&S Du-Fa feeds from either side, is fast, economical for short runs. Features special inking roller wash-up system — on press — cuts time between runs.

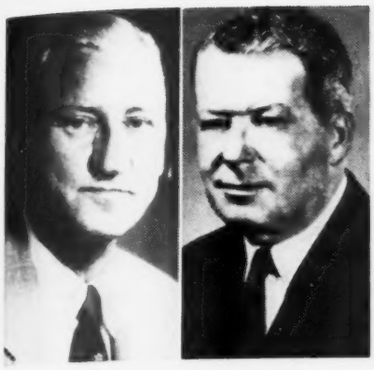
- Available in 5 sizes:
  maximum printing surface 39″ x 55″
  maximum sheet size 40″ x 56″

Write for full details on *all* the special features of this modestly priced, highly versatile press. See how S&S Du-Fa cuts costs, increases production.

Imported by:

Amsterdam Continental
Types and Graphic Equipment Inc.
268-276 Fourth Avenue, New York 10, N.Y.





C. A. Brattstrom (left) has been appointed Executive Assistant of Sun Chemical Corp., it has been announced by Ralph C. Persons, Executive Vice Pres. For the past 18 years, Brattstrom has been associated with the Geo. H. Morrill Co., Div. of Sun Chemical Corp. During that period he was St. Louis branch manager, assistant to Morrill's general manager in New York, and most recently, Mid-West district manager in Chicago. He will make his office in the Sun Chemical building in Long Island City, N. Y. The post vacated by Brattstrom will be filled by Andy H. Solberg (right), who has been Morrill's St. Louis district manager since 1947. While Solberg will make his headquarters in Chicago, he will continue his present activities and maintain an office in St. Louis.

John E. Lecraw, a Lieutenant-Commander in the U. S. Naval Reserve, has resumed his former post as Plant Supt. of Mosstype Corporation, after completing almost two years of active duty, principally on the carrier *U.S.S. Antietam*. A veteran of World War II, Lecraw was recalled to service in 1950 and, until his recent release, was maintenance officer of a jet fighter squadron in the Korean theatre. At Mosstype, Lecraw is in charge of art, engraving and rubber printing plate production.

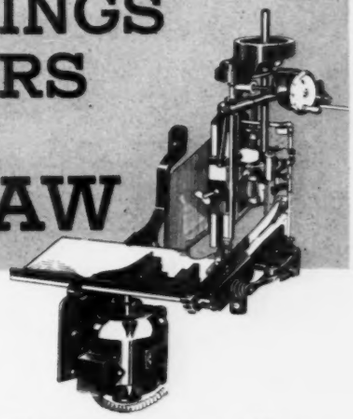
Robert R. Kable was recently elected to the office of President of Kable Printing Co., Mt. Morris, Ill., succeeding his father, the late Harry G. Kable. Kable has been associated with the Kable firm since 1935 and has been a vice president since 1944. He is a graduate of Dartmouth College and the Dept. of Printing Management, Carnegie Institute of Technology. He is also publisher of the Mt. Morris (Ill.) *Index*, the weekly newspaper from which Kable Printing Co. grew.

Edward F. Dykstra has been named Advertising and Sales Promotion Mgr. of Mergenthaler Linotype Co., succeeding William L. Bartlett. Prior to his appointment, Dykstra was assistant advertising manager of the Shaw-Box and Hoist Div. of Manning, Maxwell and Moore, Inc. A graduate of the University of Illinois, he served with the U. S. Army during World War II. Dykstra is a member of both the National and the Chicago Industrial Advertising Associations.

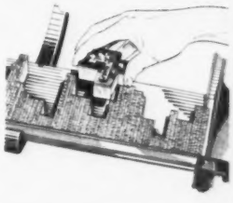
E. E. Helm, Sales Vice Pres. of the Reliance Electric & Engineering Co., has announced the following appointments: Robert T. Jennings as Sales Application Engineer in the Detroit district office located at 12326 Hamilton.; William F. Kiser, jr., as Sales Application Engineer in the Philadelphia district sales office at 19 E. Lancaster Ave., Ardmore, Pa.; and John M. Duff to the Applied Engineering & Industrial Sales Dept. at the company's main plant in Cleveland.

Nicholas A. Minotti has been appointed Offset Representative of Chemco Photoproducts Co., Inc. Minotti will make his headquarters at the company's New York office at 235 Fourth Ave. His background includes seven years' experience as owner of his own offset plant, and production manager and color photographer with a New York offset firm.

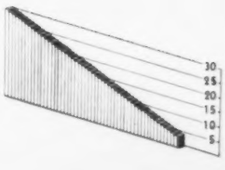
THESE SAVINGS ARE YOURS *with the* MOHR SAW



Simplified, "fool-proof" measure setting. Set the dial by picas, nonpareils or points to any measure and you set left-hand vise jaw, assembler slide and saw—exactly in unison. One setting does the work of three.



Automatic slug sawing. With no further adjustment the slug drops to the galley accurately sawed to the measure required—immediately ready for make-up without further handling.



You use only 30-pica mold liners. You avoid the bother and expense of changing them and all the delay and expense incidental to replacing damaged mold liners, ejector blades and side knives caused by failure to change ejector blade to correspond to mold liner.

Write for new booklet, "Any Measure . . .", or ask your Linotype or Intertype representative about the Mohr Saw.

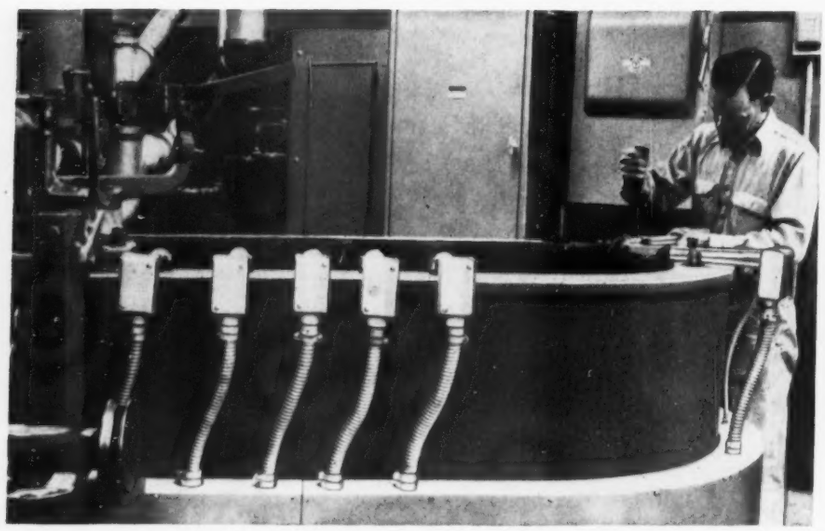
MOHR LINO-SAW COMPANY
126 N. Union Avenue — Chicago 6, Illinois

Emil Georg Sahlin, Buffalo, N. Y., nationally known typographer, was the winner of the printing Week Poster Contest sponsored by the Intl. Assoc. of Printing House Craftsmen, Inc. The winning poster design will be printed by the International and distributed to all local Craftsmen's clubs sponsoring the observance. Printing Week is to be observed by Graphic Arts groups throughout the country from January 11 to 17, 1953.

I. S. Preston, Vice President of the Bureau of Engraving, Inc., Minneapolis, has been elected President of the Board of Managers of the Dunwoody Industrial Institute Alumni Fund. As president of the school's alumni group, Preston will head the activities of the alumni and its annual fund raising campaign. Fred J. Landon, formerly head of the Dunwoody Printing Dept., has been named Executive Secretary of the alumni group and also Chairman of the school's Scholarship Committee. In his annual report, Landon reported that the Alumni Fund had provided over 30 scholarships for students desiring to attend Dunwoody Institute. Many of these are available for applicants for training in the printing department. The scholarships cover full payment of training fees. Interested applicants should write to Fred J. Landon, Chairman Scholarship Committee, Dunwoody Institute, Minneapolis, Minn.

Samuel M. Burt, Asst. Managing Director, Research and Engineering Council of the Graphic Arts Industry, Inc., was guest speaker at the October meeting of the Club of Printing House Craftsmen of New York, Inc. Burt's talk dealt with the projects being undertaken by the R&E Council as well as recent improvements in Graphic Arts materials, methods and techniques. Burt formerly was with Educational Testing Service, Princeton, N. J., and before that was Director of the Printing Institute of Philadelphia.

New Printing Plant Chooses G-E Heaters For Efficient Stereotype Metal Melting



The Lancaster, Pennsylvania, INTELLIGENCER-JOURNAL, NEW ERA, and SUNDAY NEWS have chosen G-E Calrod* heaters for stereotype metal melting in their new printing plant. This modern plant prints six editions daily with a total circulation of 73,000, and they must use the most reliable melting methods.

Nine 10-kw Calrod immersion heaters heat 7 tons of type metal to exacting temperatures, and then keep the metal molten.

Insist on G-E Calrod immersion heaters because:

- **Accurate control of temperatures** provides sharp type faces at low operating costs.
- **Dependable heat** meets exacting time schedules and reduces shutdowns.
- **Electric heat melts metals fast** so there is always plenty of hot metal.
- **Automatic operation** gives uniform results and working conditions are improved because no waste gases contaminate the atmosphere.

CALL, WRITE OR SEE your nearest G-E Sales Office for suggestions and recommendations on *your* metal melting job. Or send for Bulletin GEA-5453 to *Section* 720-79, *General Electric Company, Schenectady, N. Y.*

*Reg. Trademark of General Electric Co.

GENERAL ELECTRIC

BOOKS

How to Recognize Type Faces

R. RANDOLPH KARCH has compiled a 268 page text book to provide a study of the characteristics and recognition of type faces for printers, production men, layout artists, salesmen and students of printing. Appropriately titled *How To Recognize Type Faces*, the author includes specimens of 1475 different type faces in the book, arranged in order of their likenesses.

According to Karch, the text serves the following eight purposes: Quick location of a specimen of any type face generally used; Recognition of type faces by comparison; Similarities in type face designs; Relative weights of type faces; Relative sizes of type faces, not as to point size but as to lowercase height and width; What type face sizes are available; Names of the manufacturers of type or matrices from which type faces are cast, and Shows the design of characters of type faces made only in small sizes reproduced in large sizes.

Shown in the book are 926 serifed designs, 27 blackletter designs, 5 stencilled designs, 62 script designs, 80 square serifed designs and 375 sans serifed designs.

Sections are included on type face classification, families of type, fonts of type, series of type, design as a factor in type size, type in mass (various leading), comparative color of type and parts of a type face. In other sections, the author discusses distinguishing characteristics of type faces and what to look for in various designs, factors which make identification of type difficult and long and short descenders.

Fit of italics, effect of gravure screen on type faces and how to identify the printing process used complete the informational section of the book. An index total-

ing 13 pages serves to locate type face specimens shown.

How To Recognize Type Faces—by R. Randolph Karch. Book consists of 268 pages; size, 5½ in. by 8½ in.; blue cloth cover. May be ordered from McKnight & McKnight Publishing Co., Market and Center Sts., Bloomington, Ill. Price, $6 per copy.

Reproduction Quality of Stereotype Mats

PRINTING Equipment Engineer is glad to note publication of Technical Report No. 8 by the Mechanical Research Dept. of the American Newspaper Publishers Assoc. The report is entitled: *Reproduction Quality of Stereotype Mats—Progress Report No. 1.* Apparently, this is the first of a series of progress reports with respect to distortion, data for which is so badly needed in the industry. Conduct of investigational work and publication of reports such as this seem to be among the true functions of the ANPA Research Laboratories.

The first part of the study is devoted to confirmation and extension of the work previously done by L. J. Griner (now Production Mgr. for Knight Newspapers). This has reference to proper halftone dot count in relationship to stereotyping. A stereotype mat shrinks vertically and horizontally. It does not shrink in the diagonal line direction in which halftone screen dots are counted by the photoengraver. Griner's previous work with 65 line screen halftone with 1 in. shrink mats is substantiated—that is, there is not enough difference in the dot arrangement in high shrink mat molding to distort the appearance of a halftone picture. The ANPA Research Laboratory report also confirms Griner's contention (closely enough for practical purposes) that the poor appearance of halftone illustrations in high shrink mats may be traced to a number of causes other than high shrinkage itself.

In the ANPA Research Laboratory report, the amplified investigation of dot count was conducted with 55, 60 and 65 line screen halftones. The investigation ranged from no shrinkage, including ⅝, ¾, ⅞, 1, 1⅛ and 1¼ in. shrink mats. By way of comparison it is interesting to note that horizontally there are 45.9 dots per in. in a 65 line screen halftone. Under 1¼ in. mat shrinkage, the halftone dots have increased on a horizontal line to 49.7 dots per in.

One of the interesting features of the report is that the ANPA Research Laboratory supplements the mathematical data discussed above by showing the visible effect of shrinkage on distortion. This was done by proofing a zinc halftone engraving on high shrink mats. One mat proof was allowed to shrink its full amount while the other proof was dried to retain its full dimensions. The two mats were then placed in a copy camera and a 1:1 negative was made. The negative then was printed. It is stated in the report that ". . . even a trained observer could not detect any visible distortion in a halftone due to the effect of shrinkage alone."

Reference is made in this Progress Report that at the San Francisco ANPA Mechanical Conference several in attendance raised the question of reproduction loss when using high shrinkage mats. Discussion indicated an inclination to place the blame for loss in halftone reproduction quality on distortion due to high shrinkage.

The second section of the ANPA Research Laboratory Progress Report deals with a comparison of the retained depth of halftone molds after scorching ¾, ⅞, 1 and 1⅛ in. shrinkage mats. Pursuit of the answers regarding comparisons of the retained depth of mold after scorching was rendered complicated because of the use of mats from four manufacturers in the different shrinkages listed immediately above. It surely was a meticulous operation. All of 27 tables were formulated to show amount of depth retention in the various brands of mats with variable molding combinations. Conclusions reached are summarized as follows: "As far as mold depth retention in the mat is concerned, data show that high shrinkage mats can retain the same depth of mold as low shrinkage mats. It is therefore concluded that loss of reproduction quality, if any, as discussed at the 1952 ANPA Mechanical Conference *must, to a large extent, be dependent upon other variables.*" (Italics are ours.)

● When BURGESS MATS reach the user, they still retain "seasoning room" consistency. Why . . . because each bundle of mats is wrapped in waxed kraft paper—reinforced by special paper made of two sheets of kraft paper with a layer of asphalt between. Every opening is carefully sealed with gummed tape. Thus packed, Burgess Mats neither lose or take on moisture.

The result—Burgess Mats reach you FACTORY FRESH.

BURGESS CELLULOSE COMPANY
Manufacturers and Distributors
of Burgess Chrome and Tone-Tex Mats
Freeport, Illinois

A Laboratory Product
BURGESS
Chrome
MATS

It is noted that most of the tests were conducted with ⅛ in. plastic molding blanket combination, while only two were taken with cork board combination. It would be interesting to have data regarding other molding combinations employed by stereotypers throughout the daily newspaper printing industry.

Regarding some of the other factors affecting the quality of high shrinkage mat reproduction as listed in the report, we would like in particular to see Director Larry Flint and associates investigate the effect of plate cooling rate on plate face. Perhaps some data (much of it empirical) emanating from other sources already exists. But we firmly believe that a laboratory staffed by investigators intimately familiar with stereotyping problems would settle the existing controversies, and we don't mean to discount the importance of the other factors outlined in the Progress Report—they're all important.

Rudge's New Address

William E. Rudge's Sons, the printing division of Geffen, Dunn & Co., has moved to 130 Cedar St., New York 6, N. Y. Telephone number of the Rudge division is Barclay 7-7300. It was also announced that the editorial and consulting divisions of Geffen, Dunn & Co., will remain at the Port Authority Bldg., 76 Ninth Ave., with the present telephone number of Chelsea 2-6700.

IT'S A TRICK
OF THE TRADE...

CHALLENGE
Stainless DOOR-EASE Stick Lubricant
• To keep hollow drills in good working condition, lubricate them occasionally with "Door-Ease". This stainless stick lubricant reduces friction; will not stain the stock. Apply a light coat on the cutting edge of the drill.

BUT IT'S NO TRICK
TO MAKE A BETTER IMPRESSION
WITH A

CHALLENGE PROOF PRESS

Pull a proof on a Challenge Proof Press and see the difference. Notice the sharp, clean impression . . . how readily bad type and damaged cuts are revealed.

There's a full selection of six styles — one general utility, stationary bed model and five with reciprocating bed . . . featuring the famous Challenge "cylinder press" principle which assures easy (anti-friction) operation. Three of the models have cylinder grippers, so that sheets are fed to the grippers, and a micrometer side guide. Two of these models are equipped with Automatic Inkers.

709

Write for specific details and prices

THE CHALLENGE MACHINERY COMPANY

Office, Factories and Show Room: Grand Haven, Mich.

Over 50 Years in Service of the Graphic Arts

DEALERS IN ALL PRINCIPAL CITIES

Challenge
TRADE-MARK ®

Conference Dates

(With Organization Names and Principal Officers)

American Photoengravers Association – 1953 Convention, Hotel Statler, Boston, October 12, 13 and 14. President, D. H. Murnik, Oakland National Engraving & Gravure Co., Oakland, Calif.; Frank J. Schreiber, Executive Secretary, 166 W. Van Buren St., Chicago 4, Ill.

ANPA Mechanical Conference – 1953 Conference, Milwaukee, Wis., June 15, 16 and 17. Conference sessions and exhibits to be held in Civic Auditorium; Conference headquarters, Hotel Schroeder. Chairman of the Committee, L. J. Griner, Production Mgr. Detroit *Free Press;* Manager ANPA Mechanical Dept., Vernon R. Spitaleri, 370 Lexington Ave., New York 17, N. Y.

Fifth District Craftsmen's Conference – 1953 Conference, Lansing, Mich., June 26 and 27, hotel to be announced. Secretary-Treasurer, Robert Wolf, Richardson-Taylor-Globe Co., 4501 Mitchell Ave., Cincinnati 32, O.

Graphic Arts Trade Association Executives—President, Robert Hostetter, Printing Industry of Pittsburgh, 3124 Jenkins Arcade Bldg., Pittsburgh 22, Pa.

Gravure Technical Association—Secretary-Treasurer, J. E. Hazel, Room 4800, 30 Rockefeller Plaza, New York 20, N. Y.

Great Lakes Newspaper Mechanical Conference—1953 Conference, Deshler-Wallick Hotel, Columbus, O. January 11-13. President, Harry A. Miller, Mechanical Supt., Dayton (O.) *Daily News;* Secretary-Treasurer, Don Clark, Stereotype Supt., Grand Rapids (Mich.) *Press.* Co-chairmen, Manufacturers' and Suppliers' Committee, Ray Burgoon, Sales Representative, Mergenthaler Linotype Co., 192 Haldy Ave., Columbus 4, O.; Clarence Seaman, Vice President, Imperial Type Metal Co., 1276 W. Third St., Cleveland 13, O.

Illinois Newspaper Mechanical Conference—1953 Conference, Hotel Jefferson, Peoria, Ill., September 26 and 27. President, Thomas Lowry, Peoria (Ill.) Newspapers, Inc.; Secretary-Treasurer, Wilbur L. Augspurger, Peoria (Ill.) Newspapers, Inc.

Intl. Assoc. Electrotypers & Stereotypers—President, Walter C. Dohm, Norman-Dohm-O'Flaherty Co., Inc., 228 E. 45th St., New York, N. Y.; A. P. Schloegel, Executive Secretary, 701 Leader Bldg., Cleveland 14, O.

International Association of Printing House Craftsmen – 1953 Convention, Adolphus Hotel, Dallas, Tex., September 13, 14, 15 and 16. Convention in 1954 to be held in Philadelphia, dates to be announced. President, Gordon J. Holmquist, Cole-Holmquist Press, 1228 S. Flower St., Los Angeles 15, Calif., Executive Secy., Pearl E. Oldt, 18 E. Fourth St., Cincinnati 2, O.

International Graphic Arts Education Association—1953 meeting to be held in New York, N. Y., in June. Dates and hotel to be announced later. President, Patrick F. Boughal, Principal, New York (N. Y.) School of Printing; Acting Educational Director, Fred J. Hartman, 719 Fifteenth St., N. W., Washington 5, D. C.

International Typographic Composition Association — 1953 Convention, Mayflower Hotel, Washington, D. C., September 24, 25 and 26. President, John R. Connell, Connell Typesetting Co., 302 E. Eighth St., Kansas City 6, Mo.; Frank M. Sherman, Executive Director, 1015 Chestnut St., Philadelphia 7, Pa.

Iowa Daily Newspaper Mechanical Conference—1953 Conference, Hotel Fort Des Moines, Des Moines, Ia., May 16, 17 and 18. President, Glen Meloy, Des Moines (Ia.) *Register-Tribune;* Secretary-Treasurer, Paul F. Kamler, Mechanical Supt., Clinton (Ia.) *Herald.*

Kansas Newspaper Mechanical Conference—Secretary-Treasurer, Larry Miller, Kansas Press Assoc., 701 Jackson St., Topeka, Kan.

Lithographers National Association — 1953 Convention, Edgewater Beach Hotel, Chicago, June 17, 18 and 19. President, William H. Walters, United States Printing and Lithograph Co., Mineola, L. I., N. Y.; Executive Director, W. Floyd Maxwell, 420 Lexington Ave., New York 17, N. Y.

Mid-Atlantic Mechanical Conference—1953 Conference, William Penn Hotel, Pittsburgh, Pa., March 12, 13 and 14. Jointly sponsored by the New Jersey Press Assoc. and the Pennsylvania Newspaper Publishers Assoc. Conference Director, Theodore A. Serrill, PNPA General Mgr., 209 Telegraph Bldg., Harrisburg, Pa.

Missouri Newspaper Mechanical Conference—Secretary-Treasurer, O. K. Hammitt, Mechanical Supt., Moberly (Mo.) *Monitor-Index.*

National Association of Litho Clubs — 1953 Convention to be held in Detroit during month of May, exact dates and hotel to be announced later. President, John F. Maquire, Offset Engravers, 42 E. 20th St., New York, N. Y.; Secretary, Angelo Pustorino, Daniel Murphy Co., 480 Canal St., New York, N. Y.

National Association of Photo-Lithographers—1952 Convention, Hotel New Yorker, New York, N. Y., November 5, 6, 7 and 8. Executive Vice President, Walter E. Soderstrom, 317 West 45th St., New York 36, N. Y.

National Printing Equipment Association, Inc.—President, Fred S. Tipson, T. W. & C. B. Sheridan Co., 135 Lafayette St., New York 13, N. Y.; James E. Bennett, Secretary, 110 Nassau St., New York 38, N. Y.

New England Mechanical Conference — 1953 Conference, Hotel Statler, Boston, October 17 and 18. Secretary-Treasurer, Walter C. Crighton, Comp. Room Supt., New London (Conn.) *Day.*

Northwest Mechanical Conference—Secretary-Treasurer, Ralph Carson, Dunwoody Industrial Institute, Minneapolis, Minn.

Pacific Mechanical Conference — 1953 Conference, Statler Hotel, Los Angeles, September 25, 26 and 27. President, Al Tennyson, Composing Room Supt., Los Angeles *Times* and *Mirror;* Secretary for the North, Edw. N. Conley, color press foreman, San Francisco *Chronicle;* Secretary for the South, Fred J. Moyer, Los Angeles *Daily News.*

Printing Industry of America—1953 Convention, Edgewater Beach Hotel, Chicago, dates to be announced later. President, John M. Wolff, jr., Western Printing & Lithographing Co., Southwestern Div., 1310 S. Spring St., St. Louis, Mo.; James R. Brackett, General Manager, 719 Fifteenth St., N. W., Washington, D. C.

Research and Engineering Council of the Graphic Arts Industry, Inc.—1953 Membership Meeting, May 14 and 15, city and hotel to be announced later. 1954 meeting, May 11 and 12; 1955 meeting, May 12 and 13, city and hotel to be announced later. Special Makeready and Pre-Makeready meeting, Chicago, December 5 and 6, 1952. Hotel to be announced later. Next Executive Meeting, Hotel Cleveland, Cleveland, January 23, 1953. President Edward J. Triebe, Kingsport Press, Kings-

"TINGULOK"

TAKES THE Blankety Blank

OUT OF BLANKETS

With this great new "clipper lacing" system perfected by Tingue, Brown & Co., all blankets are put on the cylinder without putting fingers in the blanket opening at any time . . . pressmen swear by—not at TINGULOK.

TO INSTALL: TINGULOK uses two reels in blanket cylinder. Can also be adapted to one reel cylinders. The old canvas flaps, if any, are removed. The TINGULOK Lead Flap is applied to the lead or pin end reel. The TINGULOK Tail Flap is put on the other reel. It is *not* necessary to take reels out of the press to install TINGULOK Flaps.

TO BLANKET: Simply run clipper lace wire through elements on TINGULOK Lead Flap and TINGULOK Blankets and Drawsheet. Reel in until reinforcement on Drawsheet is below opening. Wrap Blankets around cylinder and run wire through lacing on tail of Drawsheet. Reel in . . . It's as simple as that as TINGULOK Flaps and Blankets are made up complete with no preparation of blankets and drawsheets necessary.

"TINGULOK" the most economical and simplest system of blanketing rotary newspaper presses."

TINGUE, BROWN & CO.

723 E. Washington Blvd.
Los Angeles 21, Calif. PRospect 6023

507 Bishop Street, N.W.
Atlanta, Georgia ATwood 3864

1227 Wabash Avenue
Chicago 5, Illinois HArrison 7-0083

1765 Carter Avenue
New York 57, N. Y. CYpress 9-8800

CANADIAN SALES AGENTS: ROSS WHITEHEAD & CO. LTD., MONTREAL, CAN.

port, Tenn.; Official Headquarters. Bernard J. Taymans, Managing Director, 719 Fifteenth St., N. W., Washington 5, D. C.

Screen Process Printing Association — President, John W. Key, Admiral Screen Print Corp., 627 W. Lake St., Chicago 6, Ill.

SNPA (Eastern Div.) Mechanical Conference—Secretary, Ray B. Crow, Southern Newspaper Publishers Assoc., P. O. Box 1569, Chattanooga 1, Tenn.

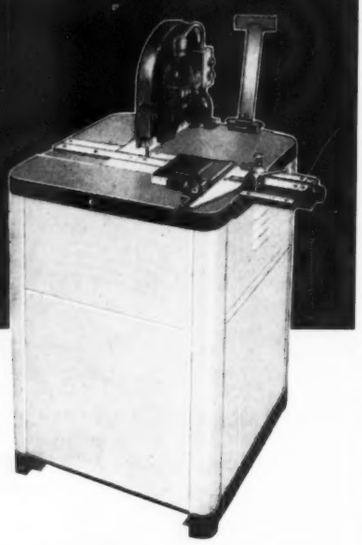
SNPA (Western Div.) Mechanical Conference—1953 Conference, Texas Hotel, Ft. Worth, Tex., March 8, 9 and 10. Chairman, Frederic R. Rice, Little Rock (Ark.) *Democrat;* Secretary, Walter Johnson, jr., P. O. Box 1569, Chattanooga 1, Tenn.

Chairman of Supply Men's Committee, Edwin Yagow, Goss Printing Press Co.

Technical Assoc. of the Graphic Arts — 1953 Meeting, Wardman Park Hotel, Washington, D. C., April 27, 28 and 29. President, John McMaster, Graphic Arts Div., Eastman Kodak Co., Rochester, N. Y.; Secretary-Treasurer, Paul J. Hartsuch, Printing Ink Div., Interchemical Corp., 161 W. Harrison St., Chicago 5.

Many of our production executive readers will respond to your Position Wanted Ad in the Classified Section of *Printing Equipment Engineer*. Rates on P. 79.

NOW!
TWO ROUSE TIME-SAVING
PLATE SAWS
With Exclusive Automatic Feed
For Photoengravers, Stereotypers, Printers



No more manual squaring up, guesswork alignment, tacking, scoring, beveling, trimming, removing burrs, using wedges. That's how a Rouse Plate Saw soon pays for itself.

Just make 4 quick, easy, automatic saw cuts and your plate is ready for the printer. The *exclusive* automatic feed guarantees each cut to be perfectly square, smooth-edged and uniform on any copper, zinc, magnesium or plastic plate, whether wood or plastic mounted or shellcast.

Cuts are made to Picas, Points, Quarter Points or Inches as required. Outside Mortising is effectively done to pica and point measurement.

NEW 24" MODEL—automatically cuts up to 24" of type-high work in only 27 seconds.

15" MODEL—identical to 24" Model except it automatically cuts up to 15" of type-high work in only 17 seconds.

BOTH MODELS occupy only 26" x 26" floor space.

NEW FEATURES (*on Both Models*)

1. Now you can make *cuts as small as 1 Pica square* for signatures, key letter or number changes, etc.

2. *Narrow Cut* measures about 2 points (.028"), permitting cutting between type lines.

3. Saw blades are changed in just 1 minute due to new lever-operated tension release. Blades stay sharp during 30-40 hours continuous operation. New blades are inexpensive.

4. New simplified gauge adjusting device makes it easier to maintain perfect squareness in cutting.

DESIGNED BY MEN WITH 28 YEARS KNOW-HOW IN BUILDING BAND SAWS FOR PRINTERS

Write for complete details TODAY!

H. B. ROUSE & COMPANY
2214 North Wayne Avenue Chicago 14, Illinois

ROUSE PRODUCTS...The Standard of the World Since 1899

Advertise Printing

(Continued from Page 26)

printing management executives appoint one man, if the organization is substantial enough, to handle the firm's advertising.

"No one," he said, "who is interested in increasing his business, can afford not to advertise." Mr. Clawson advocated the use of good paper, the right ink and new type in the production of promotional pieces which are intended to sell quality printing.

The PIA members then heard case histories on *How We Increased Our Volume Through Self-Advertising*. Speakers were: Lloyd F. Neely, President, Neely Printing Co., Chicago; J. E. Turnbull, President, Shelton-Turnbull-Fuller Co., Eugene, Ore.; John S. Williams, President, Williams & Marcus Co., Philadelphia.

Self-Advertising Awards

Winners in the first competition among printers and lithographers for promotional pieces produced for their own self-advertising were announced at the annual banquet of Printing Industry of America during its convention held in St. Louis. The exhibition was sponsored by PIA and Miller Printing Machinery Co. Presentation of the $1,000 awards for first prizes and Benjamin Franklin statuettes was made by Richard B. Tullis, President of Miller Printing Machinery Co. A total of 430 entries were submitted.

Campaign pieces entered by printing companies with 19 or less employees: First Prize, Hub Offset Co., Boston; Second Prize, Fine Arts Litho Co., Dallas, Tex. Firms with 20 and less than 100 employees: First Prize, The Veritone Co., Chicago; Second Prize, Huron Press, Inc., Chicago. Firms with 100 or more employees: First Prize, Edward Stern and Co., Inc., Philadelphia; Second Prize, John Mather Printing Co., Chicago.

Statuettes were presented to the following (in the same order of categories listed above) as first prizes in the contest for individual advertising pieces: Frederick M. Pannebaker, Denver, Col.; Walker Press Ltd., Paris, Ont., Can.; Beck Engraving Co., Inc., Philadelphia.

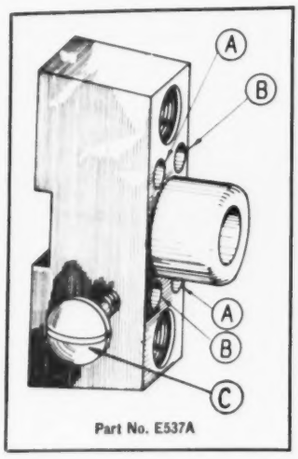
Honorable mention certificates in the different categories went to the following: Cooper-Warnick Co., Philadelphia; Lizzlyn Press, South Pomfret, Vt.; Frederick M. Pannebaker, Denver, Col.; Rous & Mann Press Ltd., Toronto, Can.; Standard Printing Co., Hannibal, Mo.; James Gray, Inc., New York; McCormick-Armstrong Co., Inc., Wichita, Kan.; Monsen-Chicago, Inc., Chicago; Muirson Label Co., Inc., San Jose, Calif.; Cambridge Press, Montreal, Can.; Color Process Co., Inc., Philadelphia; Eureka Press, Los Angeles; Modern Displays, Cincinnati, O.; Arrow Press, Milwaukee, Wis.; Canterbury Printing Co., New York; Duenewald Printing Corp., New York; R. R. Donnelley & Sons Co., Chi-

"STAR PARTS"

SCORES AGAIN

WITH MORE HELPS FOR THE LINOTYPE MACHINIST!

NOW New Mold Disk Locking Stud Blocks R.H. can be installed without having to leave out dowels: Two additional holes in the block allow dowels to be placed in different spots.



Part No. E537A

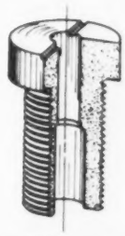
(A) Original holes when these cannot be used because they are out of line with the old holes on the machine frame. (B) Holes are used. Two new holes are drilled into the machine frame.

This avoids danger of Blocks shifting which sometimes occurs when left undoweled. An extra long screw (C) is provided for the Front Mold Wiper to compensate for the new hole. It banks on the side wall of the hole.

• •

Another headache is avoided for the machinist by the use of this new: MOUTHPIECE SCREW . . . with a hole down the center of its' entire length. If the screw head breaks off in the mouthpiece, it is now a simple matter, with this screw, to get it out. All you do is put an "Ezy-Out" tool into the hole.

Leaflet with more details covering these two items is available.



Part Nos. G308A - for gas pots
F2791A - for electric pots

PRECISION TRADE ★ MARK

LINOTYPE PARTS COMPANY

Factory and Main Office SOUTH HACKENSACK N. J. INCORPORATED Branch Office 1227 BROADWAY KANSAS CITY 6, MO.

CHICAGO • MINNEAPOLIS • DENVER • LOS ANGELES • BOSTON

FOR A BETTER METAL BETTER PRINTING *Program*

Use Imperial Free Analysis Service

Without obligation we'll be glad to send you a mailing envelope for forwarding to us a seven ounce representative sample of any type metal you want analyzed.

For Linotype, Intertype or Ludlow, send sprues collected at random from each machine. For Monotype, collect a few characters each day until you have 7 ounces. For stereotype, stir metal thoroughly at casting temperature and ladle out a sample.

Our laboratories will give your samples a thorough analysis and we'll report the exact condition of your metal and how to correct it if necessary. Another Imperial service at no charge to you. You'll find it profitable to use this service regularly as thousands of others are doing.

Imperial

TYPE METAL COMPANY

SERVING THE GRAPHIC ARTS *Exclusively*

PHILADELPHIA 34 • NEW YORK 7 • CHICAGO 50

GREATER $AVINGS

from your Teletypesetter equipment
when you use the
SHAFFSTALL JUSTIFICATION CONTROL

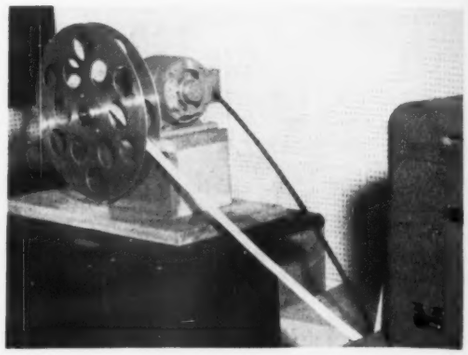
Your $avings

- Save operator's time
- Save operator fatigue
- Save proof-reading time and much costly re-setting
- Save damaged matrices and spacebands in typecasting
- Save down time on your linecasting machines
- Save time in training new perforator operators

SHAFFSTALL EQUIPMENT, Inc.
1408 Pearl St. • Anderson, Indiana

SHAFFSTALL *Giant* TAPE WINDER

will *eliminate* m e s s y piles of wire service tape which accumulate before working hours.



A few of the savings... save wire editor's time... gets type on the bank from wire service faster... save 75% of the time required to get wire service tape ready for the operating unit. Will wind a complete roll of tape. A 10" unwinding reel is furnished to enable reducing large roll into small takes for the operating unit.

SHAFFSTALL EQUIPMENT, Inc.
1408 Pearl St. • Anderson, Indiana

cago; Lind Brothers, Printers, New York; The Rein Co., Houston, Tex.; John P. Smith Co., Inc., Rochester, N. Y.; and Kurt H. Volk, Inc., New York.

Human Relations

(**Continued from Page 29**)

job. He expects you to have all the answers; so you try to keep up with the job. Right at this point is when a foreman finds out what other people think his responsibilities really are.

He is responsible for production.

He is responsible for quality.

He is responsible for service, costs, waste, safety, repairs, and maintenance and the morale of his department.

Let me ask you this: Is he responsible for all of these things? Who gets out the production? People. Who gets out the Quality? People. Who gets out the service? People. Who makes the waste, costs, gets hurt and causes repairs? People.

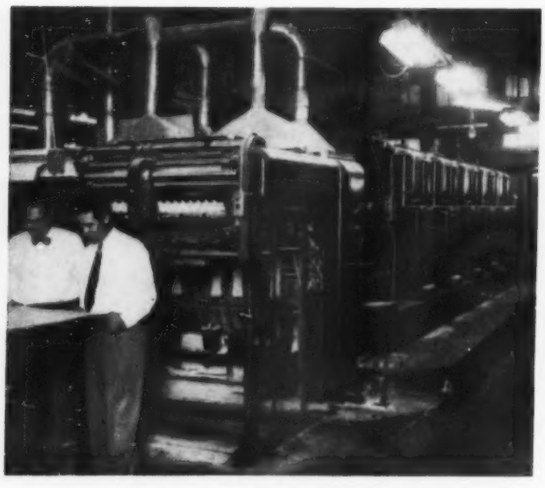
The foreman can't try to do all these things himself. He is responsible only for what people do. The relation he has, therefore, with his people helps him to multiply himself by the number of people he has under him. A foreman gets results through people.

Unfortunately, people don't have instructions hanging on them which specify how they should be handled and looked after. This is true of new machines, when we get them, but not people. The two-way line of communication between a foreman and his people is a highway to success in personnel relations at the departmental level.

Each Person a Separate Individual

A foreman should be trained to look at each one of his employees as a separate individual, with a different background, education, health and personal life, who must be handled differently from another, to get along with him. A foreman will have more success in getting along with his people if he is friendly, frank and fair, has faith in them, and is firm when he should be. There are the five "F's" of good supervisory relations and conduct in dealing with people.

On the other hand, any foreman who greets a man with "Well, what do you want?" ignores or steals his suggestions—never gives him credit when it's due—never lets him know in advance what is going to happen to him—tells him off in front of others—or accuses him of something before he checks the facts—is arrogant, sarcastic, and domineering, not only retards results but creates labor difficulties that are impossible to correct.



Miehle Rotary Press To Be Installed—The Miehle Printing Press & Mfg. Co. has reported that the Multi Color Type Co., Cincinnati, O., has ordered a Miehle No. 61 Four-Color Rotary Letterpress. The Cincinnati firm already has installed two Miehle No. 61 Five-Color Rotary Presses, one of which is shown here. Examining a sheet delivered by one of the existing presses are, from left to right, H. F. Stryker of the Multi Color Type Co. and E. J. Redmond, Miehle Cincinnati representative.

THE MONOMELT COMPANY

THE MONOMELT
THE PLANE-O-PLATE
THE HYDRO-CASTER
MONOMELT POWER SHEARS
MONOMELT MOLDING PRESSES
PLASTIC PLATE CURVER
VINYLITE AND ELECTROTYPERS SUPPLIES
BAKELITE MATRIX
(Processed by Monomelt)

1611 N. E. Polk St.
Minneapolis, Minn.

"This paper is one of our most valued accounts,"

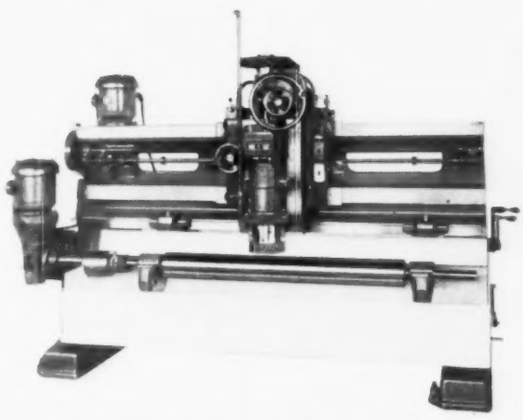
—states the big bank's visiting vice president. "Not only do you keep a good balance, but your paper is an institution. Just its clean, clear look inspires confidence."

Mat performance is a big help in winning such compliments. Rely on Certifieds, UNIFORMLY good.

For dependable stereotyping, rely on Certified Mats

Certified DRY MATS

CERTIFIED DRY MAT CORPORATION, 9 Rockefeller Plaza, Dept. M, New York 20, N. Y.



ROTOGRAVURE
GRINDING AND POLISHING MACHINE

Precision Built to Grind and Polish to .0003"

Manufactured in two sizes, each being able to handle varying diameters and lengths of cylinders. Special intaglio stones, using a combined concentric and eccentric motion give a smoother surface in shorter time than obtained with other machines. Water as a coolant eliminates all dust. Precision automatic feed—either continual or at end of each traverse—compensates for stone wear while grinding. When polishing cylinders, stone is "floated" with continuous adjustable pressure, resulting in a higher finish than obtained with paper. Variable speed motors permit a choice of grinding and polishing speeds.

STANDARD PROCESS CORPORATION
Manufacturing Gravure Equipment & Supplies
2704 W. Roscoe Street • Chicago 18, Ill.

EASTERN products . . .

FOR EFFICIENT NEWSPAPER PRODUCTION!

Order these from EASTERN and see the difference in quality and economy! Fast service, too!

- Flecto Gummed Backing Felt (Cellophane Wrapped—Moisture-Proof)
- Press Blankets
- Tru-Mold Cork Molding Blankets
- Plastic Molding Blankets
- Neoprene Molding Creepers 1/8", 3/16", 1/4"
- Double Coated Cut Mounting Tape (1/4", 1/2", 1", 2")
- Direct Pressure Molding Materials
- Eastern Circular Saws and Jig Saw Blades
- Matrix Scorchers . . . Matrix Trimming Shears
- Router Bits for Engraving and Stereotype Departments
- Linotype Matrix Cabinets
- Linotype Operators' Chairs and Stands
- Curved and Flat Casting Board

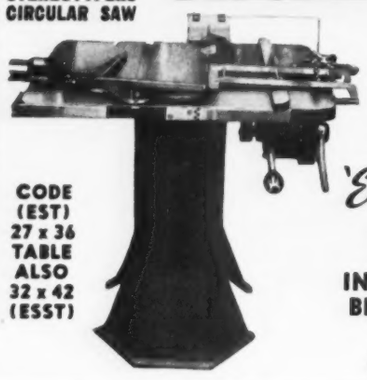
SEND FOR COMPLETE EASTERN CATALOG!

EASTERN NEWSPAPER SUPPLY, INC.
9603 Northern Boulevard • Corona, L. I., N. Y.

SPEED PRODUCTION with RICHARDS

PLATE WORKING MACHINES
SAWS — ROUTERS MORTISERS

ELECTROMATIC STEREOTYPERS CIRCULAR SAW



CODE (EST) 27 x 36 TABLE ALSO 32 x 42 (ESST)

SAVE PRESS TIME

(EMM) 'Electromatic' MORTISING MACHINES IN PEDESTAL OR BENCH MODELS

Ask For Circulars

Flat and Curved Shell or Typhi =

Curved and Tubular Plate Enclosed Routers

(PMRS) RADIAL ROUTER — Straightline And Fine Detail Routing

ROUT OUT SMASHES

PATCH

SAVE PRESS TIME

J. A. RICHARDS COMPANY, Kalamazoo 60F, Michigan

Recent Equipment Reports

Maclean-Hunter Publishing Co., Ltd., Toronto, Can., has installed additional color facilities so as to increase the capacity of its two Goss magazine presses to five-and-five color from two-and-five. These presses, of 80 page total capacity, are part of more than 40 presses in operation in the Maclean-Hunter plant. Horace T. Hunter has served as President of the company since 1933. Responsible for production is Edward Nymark, Plant Mgr., who joined the Maclean-Hunter organization in 1945.

Rosback Installations

The following installations of bindery equipment have been reported by F. P. Rosback Co. Auto-Stitchers: Patterson Press, Tucson, Ariz. (installed by Harry W. Brintnall Co.); Frankfort (Ind.) *Morning Times* (installed by Western Newspaper Union); Plain Talk Printers, Des Moines, Ia. (installed by Western Newspaper Union); Wilmore Press, Wilmore, Ky. (installed by American Type Founders, Inc.); Commonwealth of Kentucky, Dept. of Health, Louisville, Ky (installed by Addressograph-Multigraph Corp.); Hatton Press, Inc., Gardner, Mass. (installed by Wild & Stevens, Inc.); Lawson Printers, Inc., Battle Creek, Mich. (installed by American Type Founders, Inc.); Direct Mail Envelope Co., New York (installed by Gane Bros. & Lane); Merchandising, Inc., Newark, O. (installed by Western Newspaper Union); Paramount Press, Milwaukee, Wis. (installed by Milwaukee Printers Roller Co.). Twenty-two Slot Rotary Perforators: Woodmen of the World Insurance Co., Denver, Col. (installed by Addressograph-Multigraph Corp.); Commonwealth of Kentucky, Legislative Research Commission, and Dept. of Highways, Frankfort, Ky. (both installed by Addressograph-Multigraph Corp.); News Publishing Co., Waynesboro, Miss. (installed by E. C. Palmer & Co., Ltd.); Jefferson Printing Co., St. Louis, Mo. (installed by Western Newspaper Union); Beedle Publishing, White City, N. M. (installed by Western Newspaper Union); Midwestern University, School of Graphic Arts, Wichita Falls, Tex. (installed by Western Newspaper Union). Gang Stitcher: Logan Printing Co., Peoria, Ill. (installed by American Type Founders, Inc.). Special Six Punching Machine: Meredith Publishing Co., Des Moines, Ia. (installed by American Type Founders, Inc.). Pony Vari-Speed Rotary Perforators: Printing, Inc., Minneapolis, Minn. (installed by E. H. Edlund Co.); Cincinnati Milling Machine Co., Cincinnati, O. (installed by Addressograph-Multigraph Corp.). 36 in. Slot Rotary Perforator: Central Bindery Co., Philadelphia (installed by American Type Founders, Inc.).

Recent installations of Rosback bindery equipment reported by the F. P. Rosback Co. are as follows: Auto-Stitchers, Stewart Press, Middletown, Conn., installed by Western Newspaper Union; Westporter *Herald*, Westport, Conn., installed by Ernest Payne Corp.; Journal Press, Inc., Jamestown, N. Y., installed by American Type Founders, Inc.; Carr

National Newspaper Week Opens—At the site of the publication of the Boston *News-Letter*, in the Jordan-Marsh Department Store, Boston, a group of newspapermen reprint that first American newspaper. Left to right are: Stephen T. Riley, Librarian, Massachusetts State Historical Society, holding a copy of the original Vol. I, No. 1, of the *News-Letter*; Theodore A. Serrill, Chairman of National Newspaper Week and General Mgr., Pennsylvania Newspaper Publishers' Assoc.; Edward Stephens, Boston commercial printer who supplied the Aramace press shown in the picture; Frank J. Heinrich, Circulation Mgr., Burlington (Vt.) *Free Press*, and President, New England Assoc. of Circulation Managers; John P. S. Doherty, Advertising Dir., Lawrence (Mass.) *Eagle-Tribune*, and Vice Pres., New England Newspaper Advertising Executives Assoc.; A. T. Larrson, Editor, Wellesley (Mass.) *Townsman*, representing National Editorial Assoc.; Herbert S. Austin, Wellesley (Mass.) *Townsman*, and President, Massachusetts Press Assoc.; and J. Arthur Moriarty, Secretary-Treasurer, Boston Typographical Union, who removed from the old press a reproduction of Vol. I, No. 1, of the Boston *News-Letter* of 1704.

"REGAL" MONOCORK

by

New England

This Press Blanket is by far superior to any cork packing that has ever been available to the industry!

We make this claim with no fear of contradiction. Its perfection is attested to by the fact that we have difficulty in keeping up with the demand.

No matter what your reason may be for not having these blankets on your machine, the simple truth is that you are denying yourself the best. Once you learn what "REGAL" has to offer, you too will be a constant repeat user.

YOU BE THE JUDGE!

NEW ENGLAND FIBRE BLANKET COMPANY

164 FREMONT STREET

WORCESTER MASSACHUSETTS

BRANCHES: New York—Chicago—San Francisco—Tulsa

LASTING IMPRESSIONS

because . . .

Samples convince—trial orders follow—WOOD'S quality established.

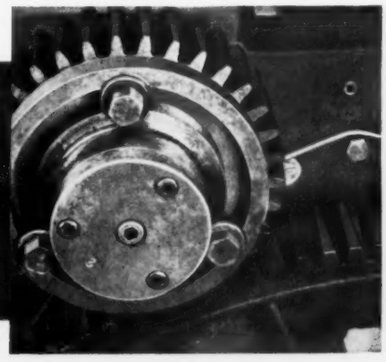
WOOD DRY MATS

WOOD FLONG CORPORATION

HOOSICK FALLS, N. Y.

NEW YORK CITY OFFICE:

551 FIFTH AVENUE, NEW YORK 17, N. Y.



GEARED

FOR 100% HAIR-LINE REGISTER

. . . at HIGH or LOW speed

Because of the TAPERED TEETH in the Hess & Barker bull and cylinder gears, perfect register is guaranteed on all 4 to 8 color letterpress printed sheets at high or low speed.

Send for 25 FREE sample sheets.

HESS & BARKER

Printing Press and Equipment Manufacturers

212-22 SOUTH DARIEN ST., PHILA. 7, PA.

Telephone: PE nnypacker 5-4070

IMPROVE PRINTING

Pre-shrink in the ALICO Evenray Mat Drier

INFRA-RED PRE-DRYING WITH UNIFORMITY.

USERS REPORT:

- Type sharper
- Halftones clearer
- Greater depth of mould
- Plates wear longer
- Uniform drying
- Less drying time

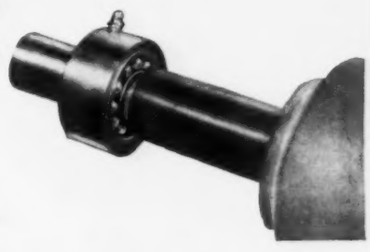
IMPROVE PRINTING

Modernize your press with ALICO ADAPTORS

Ball Bearings for Form Rollers.

ELIMINATE:

- Streaking
- Bouncing
- Overheating
- Daily Lubrication
- Excessive oil on rubber and blankets
- Bushing Replacements



ORIGINAL ROLLER STOCKS and SOCKETS ARE USED.

ALICO, INC. West Springfield, Mass.

A Better Furnace
... At a Better Price

The NOLAN METAL REMELTER

Saves Time
Saves Money
Saves Work

A compact, highly efficient metal remelting furnace. Priced surprisingly low and designed to make your remelting and repigging easier at money-saving speed. Available in models from 600-lb. capacity to 10-ton. Write for Bulletins.

NOLAN CORP.
ROME, NEW YORK
Builders of Quality Printing Machinery

VARiGRAPH
LETTERING INSTRUMENT

Old English
VOGUE
Sans-Serif
BODONI

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NPA
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Conservation of Metal in Printing Plates Revoked

Lifting of limitations on the length of time obsolete printing plates could be held by various printing establishments was announced recently by J. Noel Macy, Director of the Printing and Publishing Div., National Production Authority. The action was effected through revocation of NPA Order M-65, Conservation of Metal in Printing Plates, which was issued May 31, 1951 to conserve supplies of copper, aluminum, zinc, chromium and nickel. Macy explained that the easing of the metal supply situation has made possible complete revocation of the order. Although the shortage of nickel remains critical, the quantities of this material needed by the printing and publishing industry are so small they offer no bar to revocation.

Club Management Advisors Speak

CRAFTSMEN educational programs, club bulletins, membership solicitation and financial records were the topics of four speakers at a Club Management Luncheon held during the Intl. Craftsmen's Convention in St. Louis. Presiding chairman of the meeting was Thomas P. Mahoney, Intl. Second Vice Pres., and also Vice Pres. of Regensteiner Corporation, Chicago.

The contents of the recently issued

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Manual for Local Club Programs were described and advice on educational programs was given by the first speaker, Harold G. Gale. Gale is Chairman of the Intl. Club Programs Committee and also Manager of the Label Mfg. Div., Wapples Platter Co., Ft. Worth, Tex. He is also a past president of the Ft. Worth Craftsmen's Club.

The speaker said the manual is designed as a working guide for the local club program chairman. It contains suggestions on how to plan programs in advance, schedule speakers with other clubs and show guest speakers proper attention. Outlines for clinic discussions, a list of 140 available speakers, material for quiz programs and listings of movies and slide presentations suitable for club meetings are also included in the manual, according to Gale.

"Our programs must ever be a continuous fountain of information, an ever-flowing stream of technology of various Graphic Arts processes," he said. He advised the Craftsmen to chose programs that pertain to the branches of the industry which interest the membership. Programs, he added, should be presented that will keep Craftsmen informed of new developments and different methods.

Club Bulletin Winners

Winners in the annually held club bulletin contest were announced by Harold G. Crankshaw at the conclusion of a brief talk entitled *Your Club Bulletin—The Tie That Binds*. Crankshaw is Chairman of the Intl. Club Bulletin Service Committee and Teacher of Printing at Woodrow Wilson High School, Washington, D. C. In the contest of clubs having a membership of less than 150 members, the winning bulletin was the *Michiana Craftsman* produced by the Michiana (Ind.) Craftsmen's Club. Roy Thompson is Editor. The San Francisco Club placed first with its *Pi-Box*, edited by Peter Lang, in the judging of bulletins from clubs of more than 150 members.

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Crankshaw acknowledged the work of Dr. R. Hunter Middleton, Ludlow Typograph Co., Chicago; Frank H. Mortimer, Government Printing Office, Washington, D. C.; and A. R. Tommasini, University of California Press, Berkeley, Calif., in judging this year's entries.

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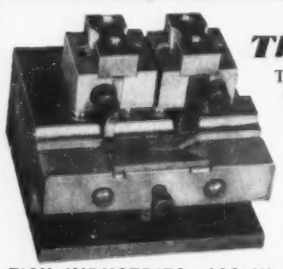

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(Milwaukee Journal Photo)

Milwaukee Craftsmen Honored—Two Milwaukee Craftsmen were presented with sterling serving dishes at a recent meeting of the Milwaukee-Racine Club of Printing House Craftsmen in recognition of their long and faithful service to the Club. David Olson (center) of Dorsey, Incorporated, Milwaukee, completed 17 years as Club Treasurer, and Fielding Utz (right) of Milwaukee Printers' Roller Co., has served in various capacities in the Club during the last 12 years and was also Intl. District Representative. Erv Radloff (left), C. B. Henschel Co., Milwaukee, a past president of the Milwaukee - Racine Club, made the presentation.

"There are thousands of eligible prospective Craftsmen throughout the crafts who have not been invited to join (Craftsmen's clubs), and a fair number of these potential members have not even been privileged to attend a Craftsmen's club meeting. There are many reasons for this situation. Two of the more important ones are the lack of interest shown by the prospective Craftsman, and the second is that the existence and activities of the local Craftsmen's club has not been sufficiently publicized so that the individual who may be interested does not know what he is missing."

Christopher served last year as Chairman of the Intl. Membership Commission. In business life, he is President and Treasurer of the Paper Supply Co., Baltimore, Md.

He told the Craftsmen to maintain a well-organized local publicity committee as a membership aid. Other helps were named as personalized invitations signed by the club president, personal solicitation, telephone invitations, sending of a local club bulletin to prospective candidates and the arrangement for formal induction ceremonies of new members.

"Membership solicitation is not a one-man job," Christopher added. He said that though the membership committee chairman has been chosen because he is a leader, he needs the help of other Craftsmen as well.

Record Keeping

A graphic presentation of keeping local club financial records was made by Albert L. Kolb, Intl. Treasurer. In his talk *Keeping Records that Count*, Kolb described the acceptable methods for the local club treasurer to maintain his books for auditing purposes. Kolb is also Manager of the Printing Dept. of Marine Trust Co., Buffalo, N. Y.

Norfolk Newspapers Install Goss Press—Recently installed at Norfolk Newspapers, Inc., was a six unit Goss Headliner press designed for printing three colors in addition to black. Henry S. Lewis, President and Publisher of the company, is shown here at the controls during the first run of the new press. Others in the picture are, from left to right: Paul S. Huber, jr., Production Mgr. and Asst. Secy.-Asst. Treas.; T. Earl Roberts, Circulation Mgr.; C. Ralph Beamon, Secretary-Treasurer; Mr. Lewis; Joseph A. Leslie, jr., Editor, Norfolk *Ledger-Dispatch*; Sidney R. Weiskittel, jr., Pressroom Supt.; Rollen Boyster, who supervised installation of the press for the Goss Printing Press Co.; and C. M. Williams, Acting Pressroom Fm. Norfolk Newspapers also publishes the Norfolk *Virginian-Pilot*.

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November 1952

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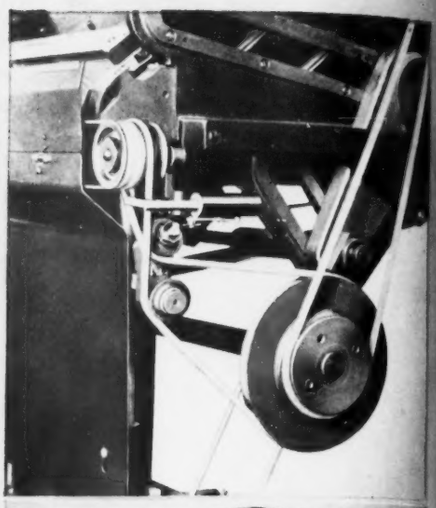

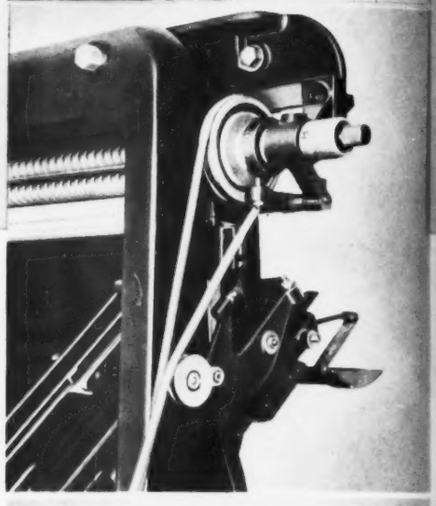

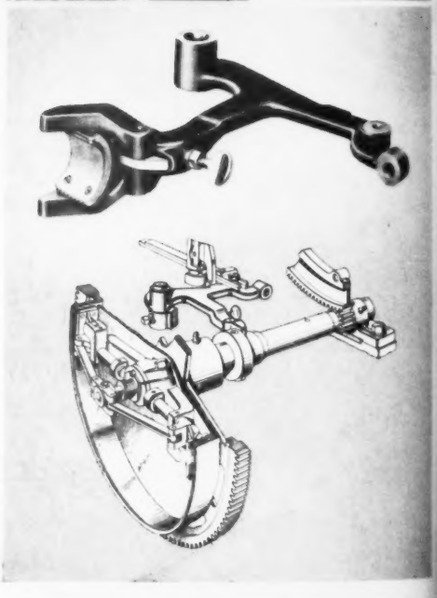

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